DOCUMENT RESUME

ED 103 728 CG 009 578

AUTHOR	Schuck, Robert F.; And Others
TITLE	Attitudes of Guidance Counselors in Western Pennsylvania High Schools Toward Medicine as a Career Choice for Women.
INSTITUTION	Pittsburgh Univ., Pa. Div. of Research in Medical Education.
SPONS AGENCY	National Fund for Medical Education, Cleveland, Ohio.
PUB DATE	[74]
NOTE	423p.
EDRS PRICE	MF-$0.76 HC-$20.94 PLUS POSTAGE
DESCRIPTORS	*Career Choice; *Counselor Attitudes; Counselor Role; *Decision Making; *Females; High School Students; *Medicine; Research Projects; Secondary Education; Sex Stereotypes

ABSTRACT

This study sought to determine the attitudes of guidance counselors toward the entrance of women into the profession of medicine. In order to answer this broad question two research methods were employed. The counselors were given a paired comparisons task, i.e., they were asked to make 66 choices among 12 high school students to determine who they felt would be most successful in medical school. To supplement this data, both counselors and women medical students at the University of Pittsburgh were interviewed and their answers analyzed. One conclusion reached by the study was that the sex of a potential medical school applicant was not a significant variable in the perceptions of the high school counselors when taken with other more obvious academic considerations. The data from this study also support the conclusion that counselors do not play an active role in the student's decision-making process; rather, they facilitate it by providing information. A misconception by most counselors was that career decisions were not made until late in college, whereas over 50 percent of the women interviewed made their decisions before or during high school. Several recommendations for further study in the area are included. (Author/PC)

ED103728

U.S. DEPARTMENT OF HEALTH.
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ATTITUDES OF GUIDANCE COUNSELORS IN WESTERN PENNSYLVANIA HIGH SCHOOLS TOWARD MEDICINE AS A CAREER CHOICE FOR WOMEN

ROBERT F. SCHUCK, ED.D.
BRUCE M. BARNHILL
VIRGINIA E. BURKE
NOREEN B. GARMAN, PH.D.
MARILYN B. KNOLLE
KAY M. MILLIN

DIVISION OF RESEARCH IN MEDICAL EDUCATION
SCHOOL OF MEDICINE, UNIVERSITY OF PITTSBURGH

CG 009 578

THIS STUDY SUPPORTED BY GRANT NUMBER 90/72 FROM
THE NATIONAL FUND FOR MEDICAL EDUCATION

2/3

Acknowledgements

This study is the result of the combined efforts of many professionals who each in their own way contributed to its success. In addition to the research team several individuals enhanced the probabilities of its completion. Dr. James Tracy and his colleagues at Bryn Mawr College who participated in the early pilot study. The high school guidance counselors who consented to participate and made the data available for analysis. The women medical students who also agreed to participate. Ms. Judy Maringo who supervised the distribution of the data collection forms and enhanced the preparation of the final report. Ms. Alice Bogdanski who aided in typing the report.

TABLE OF CONTENTS

Page

Chapter One - Statement of the Problem and Definition of Terms. 2

Chapter Two - Review of the Literature 10

Chapter Three - Research Methods and Procedures 31

Chapter Four - Findings 44

Chapter Five - Summary and Conclusions 172

Appendices

Appendix A - Summary of Questionnaire 1

Medical Student Questionnaire

Appendix B - Summary of Questionnaire II

Guidance Counselor Biographical Questionnaire

Appendix C - Summary of Questionnaire III

Guidance Counselor Interview Format

Appendix D - Pilot Study

Instructions

Answer Sheet

Appendix E - Guidance Counselor Study

Letters

Instructions

Answer Sheet

Student Profile Cards

Appendix F - Figures

1 - Women Students in U.S. Medical Schools

2 - Typical Educational Sequence Leading to Career as a Physician

3 - Smallest Space Analysis Configuration

4 - Smallest Space Analysis Configuration by Sex of Students

5 - Smallest Space Analysis Configuration by Rank of Students

6 - Men Counselors/Sex of Student

7 - Women Counselors/Sex of Student

8 - Men Counselors/Rank of Student

9 - Women Counselors/Rank of Student

10 - Counselors Age 21-40 Years/Sex of Student

11 - Counselors Age Over 40 Years/Sex of Student

12 - Counselors Age 21-40 Years/Rank of Student

13 · Counselors Age Over 40 Years/Rank of Student

14 - Counselors Counseling 0-15 Years/Sex of Student

15 - Counselors Counseling Over 15 Years/Sex of Student

16 - Counselors Counseling 0-15 Years/Rank of Student

17 - Counselors Counseling Over 15 Years/Rank of Student

18 - Urban Counselors/Sex of Student

19 - Rural Counselors/Sex of Student

20 - Urban Counselors/Rank of Student

21 - Rural Counselors/Rank of Student

Appendix G - Bibliography

CHAPTER 1

STATEMENT OF THE PROBLEM AND DEFINITION OF TERMS

CHAPTER I

Statement of the Problem and Definition of Terms

Various issues concerning human resources essential to meeting the health and medical needs of society have been gaining increasing attention in recent years, such as proper dissemination of health care services to the various segments of the American public, recruitment of various levels of competent personnel to meet various levels of need, et cetera. These topics become of more importance when viewed in light of current debates on National Health Insurance. Increasing demands for higher and better quality of care on the part of the public demand that society recruit capable and qualified members into the medical profession. The relatively low proportion of women in the medical profession in relation to their representation in the population has prompted critics to contend that the medical profession has not seriously made efforts to recruit women into medicine as a career. Though this study does not attempt to address itself to this particular problem, there is data to indicate that applications of women to medical school have increased greatly of late, as has their entrance into medical school increased. (See Figure 1)

Sexism as a factor within American society which may withhold from it valuable members in such professions as medicine has come into increasing prominence due largely to the influence of the feminist organizations as well as writings in the popular press and elsewhere. This study is concerned primarily with the effect of these attitudes upon certain areas in the educational career of women which may have direct bearing upon their decision to enter medicine as a profession.

Elizabeth Blackwell upset tradition in 1849 by graduating from the Geneva Medical College in Syracuse, New York as the first woman to receive the M.D. degree in the United States. Since then other women have followed her example in attempting to overcome the general social bias against women in a previously all masculine profession. The number of women students, however, increased only gradually from 4 percent of all medical students in 1914 to 9 percent in 1969 (excepting 1949-50 when medical student enrollments were affected by special military training programs in the aftermath of World War II). Subsequently, significant increases for 1970-71 and 1971-72 were overshadowed by the large upswing reported for 1972-73 when women represented 12.8 percent of all medical students and 16.8 percent of the 1972 fall entering class--the highest percentages for women medical students recorded to date (Dube, 1973).

In a speech given in 1968 Mary Dublin Keyserling expressed hope that changes in our approach to the counseling and guidance of our young women and girls starting at the very early years when self image is established would be initiated (Speech, American Medical Women's Association, 1968).

The percentage of women in first-year classes of all U.S. medical schools has approximated the proportion of women applicants in the period since 1929-30. Women applicants increased slowly from 3.5 percent of all applicants in 1929 to 8.1 percent in 1963 and remained in the 9 to 10 percent range until 1970 (Dube, 1973). The relative progress of women gaining entrance into the medical profession will be discussed more thoroughly in Chapter II.

Several people (e.g., Lopate, 1968) have attributed this fact to a process of negative experiences starting with high school counselors and running through premedical advisement systems and medical school admissions procedures. There is a dearth of data to substantiate this position. In fact, even a description of the nature of the attitudes of people in these positions toward medicine as a career choice for women and/or the extent of their knowledge of problems faced by women medical students and physicians does not exist.

As an individual proceeds through the educational sequence, a number of decisions are made which define whether he or she enters a profession, business, trade or other occupation. It may be helpful in understanding the effect of a high school guidance counselor on a young woman's decision to enter the profession of medicine, to present a diagram illustrating various points where decisions are reported as being typically made (See Figure 2).

In attempting to understand the complex of circumstances which attend a girl's decision to enter medicine and specifically the role the high school guidance counselor plays in this decision, the following questions are addressed:

1. What is the nature of the attitudes of guidance counselors in Western Pennsylvania high schools toward women entering the profession of medicine?
2. What is the extent of the knowledge of guidance counselors of problems which face women in the admissions procedure to medical school and the current attitudes of admissions committees toward acceptance of women to medical school?
3. What is the extent of the knowledge of guidance counselors of the problems which face women medical students during their years as a medical student?

4. What are the perceptions of guidance counselors of the requirements for students entering medical school and the proper preparation for entrance into medical school?
5. Does the personal background of the guidance counselor make a difference in the overall response to the issues surveyed?
6. What is the effectiveness of the high school guidance counselor on the career choice of women who choose to enter the professior of medicine?

Data relevant to the above questions were collected by means of questionnaires, interviews and paired-comparison tasks. Descriptions of these data, the methods of their analysis and discussions of their relevance to these issues are found in Chapter IV.

Definition of Terms

1. Attitude - For the purposes of this study, we take "attitude" to mean "an enduring, learned predisposition to behave in a consistent way toward a given class of objects." (English and English, 1966)

2. Guidance counselor in Western Pennyslvania high schools - Guidance counselors in Western Pennsylvania high schools are defined in this study as those currently practicing guidance counselors in the Western Pennsylvania area.

3. Specific Issues - Specific issues are defined in this study as issues which have been recognized as sub-problems and sub-areas of conflict within the general area of medical education. The term "issue" per se is taken to mean a subject of controversy or a subject which has been publicly noted as the object of disagreement or argument and is in a state of irresolution.

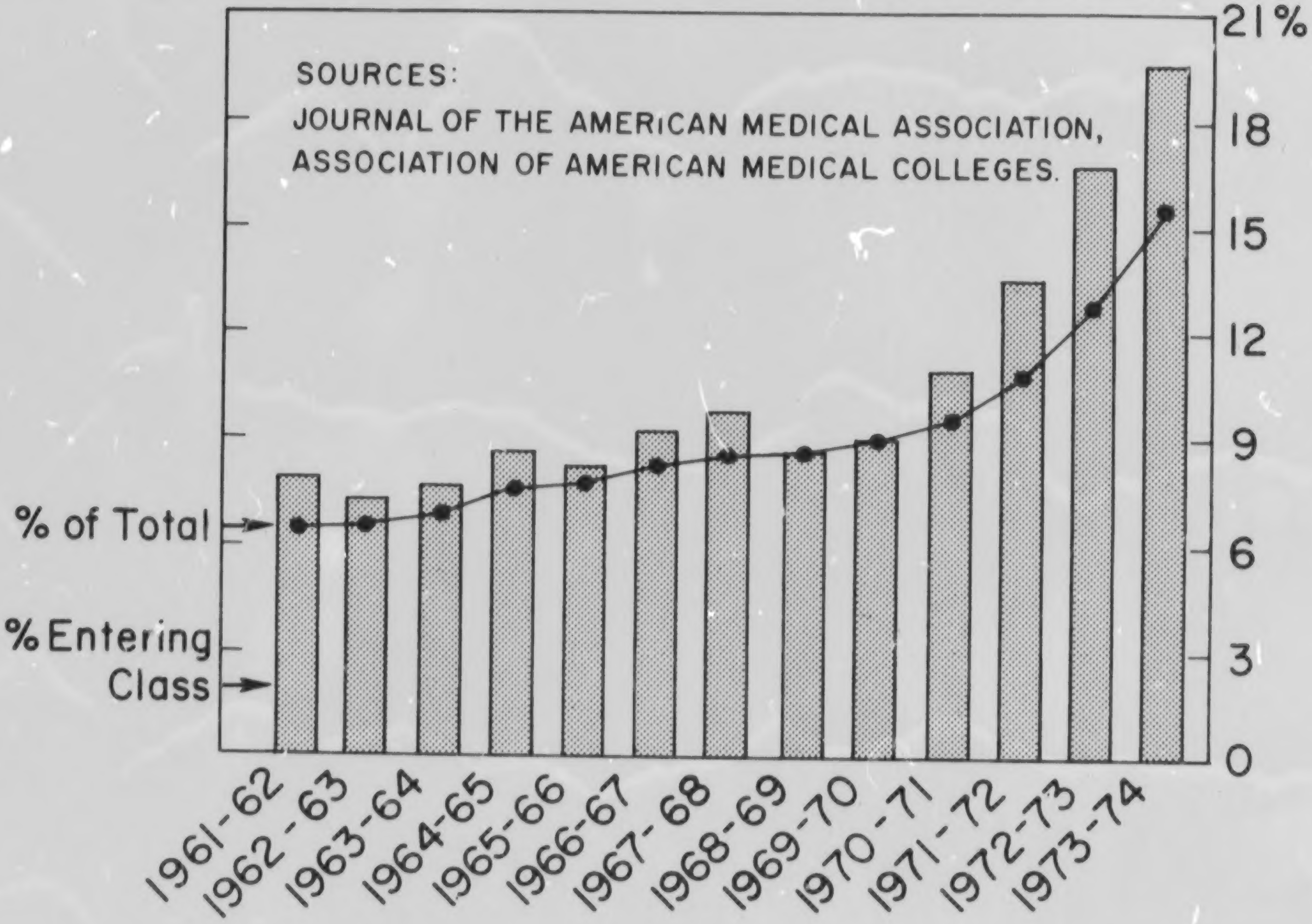
Limitations of the Study

1. The survey was taken among the practicing guidance counselors in Western Pennsylvania high schools alone.

2. It describes only the attitudes relative to those issues which are identified.

These limitations are necessary for practical reasons and to delineate the scope of the investigation and restrict the issues to those identified by medical scholars (Lopate, 1968) and the literature as ones most pertinent to "women in medicine."

FIG. I. WOMEN STUDENTS IN U.S. MEDICAL SCHOOLS



SOURCES:
JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

New York Times Volume CXXIII No. 42,543 Wednesday, July 17, 1974

BEST COPY AVAILABLE

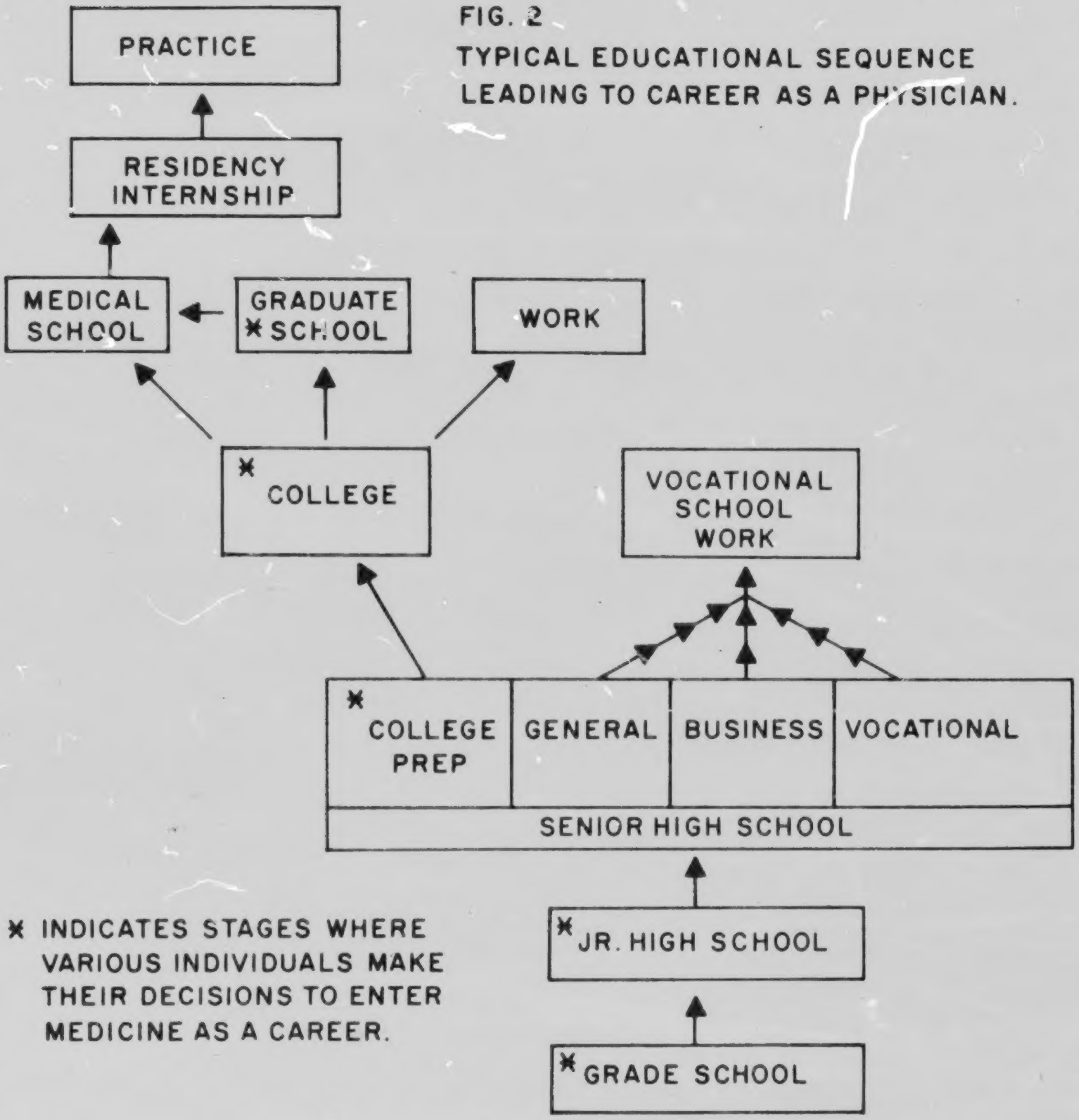

PRACTICE
RESIDENCY INTERNSHIP
MEDICAL SCHOOL
GRADUATE * SCHOOL
WORK
* COLLEGE
VOCATIONAL SCHOOL WORK
* COLLEGE PREP
GENERAL
BUSINESS
VOCATIONAL
SENIOR HIGH SCHOOL
* JR. HIGH SCHOOL
* GRADE SCHOOL

FIG. 2
TYPICAL EDUCATIONAL SEQUENCE LEADING TO CAREER AS A PHYSICIAN.

* INDICATES STAGES WHERE VARIOUS INDIVIDUALS MAKE THEIR DECISIONS TO ENTER MEDICINE AS A CAREER.

CHAPTER 2

REVIEW OF THE LITERATURE

CHAPTER II

Review of the Literature

In recent years there has been a growing concern about the number of girls who lose their motivation to study medicine during the high school and college years and "the blame for this has most often been placed at the door of their counselors." (Lopate, 1968) They are perceived as the ones who should detect and nurture signs of interest even against existing social pressure. The following literature explores the roles of the guidance counselor in the secondary schools by examining studies pertaining to counselor background, functions, bias and effectiveness. In addition the review of literature includes a section exploring the participation by women in the profession of medicine.

The Guidance Counselor

Counselor Background

Although requirements for guidance counselors vary from state to state, certain generalizations can be made. Until 1970 requirements for certification as a guidance counselor in Pennsylvania were as follows: provisional college certificate required; (1) at least a provisional certificate to teach or a Master's Degree from an approved school of social work plus an additional six-semester hours of credit in the following areas: (a) principles of elementary or secondary education, (b) elementary or secondary school curriculum. (2) Two years of successful teaching, social work or professional counseling experience and (3) 18 semester hours of graduate work in various areas of the education curriculum. For a permanent college certificate the following was required: (1) Provisional counselor's certificate and (2) three years of successful counseling. Since 1970 the requirement for certification as a guidance counselor has been the successful completion of a graduate program at an approved college or university; the content of these programs varies.

A study by Sutton (1962) determined that approximately 90 percent of practicing guidance counselors possessed a Master's Degree. M. C. Olsen in 1969 found 79 percent of guidance counselors to have a Master's Degree with 74 percent having some work beyond a Master's Degree. Sweeney's study (1966) found that 72 percent of guidance counselors had provisional certification, 22 percent held professional certification and only 6 percent had permanent certification. In the same study Sweeney determined that almost all guidance counselors had had some teaching experience and in most cases this experience was a prerequisite for the job of guidance counselor. According to Sweeney 65 percent of guidance counselors were males and 77 percent were married. The median age was 39 (Sutton, 1962).

Counselor Functions

The policy statement of the American Personnel and Guidance Association states that the major responsibility of guidance counselors is to assist the individual through a counseling relationship to utilize his own resources in environmental opportunities (American Personnel and Guidance Association, 1964). The counselor has many functions and his activities include counseling individual students, establishing and maintaining staff relationships, establishing and maintaining community relationships, and promoting the general school program (Sweeney, 1966). In addition, the guidance counselor is responsible for developing and carrying out a testing program, collecting and filing information on students, instructing the teachers in the purpose and use of the guidance system, conferring with parents, and student scheduling (Vanderpan, 1970). Some guidance counselors also do small group counseling (Duncan, 1965). Secondary school guidance counselors do not engage in much research nor do they do much personal counseling of students.

The above findings are supported in studies by Baum, 1971; Mangusso, 1972; Carmical and Calvin, 1970; Dahlem, 1971; Wattley, Kriedberg, 1972; England, 1972; Longley, 1965; Lund, 1962 and Webster, 1970.

Counselor Bias

A study of counselor bias among 32 white counselor trainees revealed a significant difference in bias between male and female trainees. The female counselor trainees had no significant difference in the prestige levels of occupational predictions by race or sex. However, the male counselor trainees expressed bias in a number of areas. They rated black male bogus clients significantly higher in prestige level occupations than black female bogus clients. White male bogus clients received significantly higher prestige level occupation predictions than did black females. Overall, male counselor trainees predicted significantly higher prestige level occupations for male clients than female and male counselor trainees had significantly lower prestige levels for black females than did female counselor trainees (Persons, 1972).

Another study of counselor trainees was in an interview setting with a coached female counselee. The data collected from that study suggested that counselors do hold bias and that female counselors have as much bias as do males. Most of the negatively biased statements emphasized the masculinity of the field. Out of a total of 79 items classified by content analysis as biased, only 5 were positive and most of those were made by women (Pietrofesa and Schlossberg, 1970).

Counselor Effectiveness

In a study by Kennedy (1969) students indicated they select counselors primarily for information concerning college choice; they select counselors less often for vocational choice. Counselors were not chosen for problems of a personal-social nature. A study by Jenkins (1971) of 1424 students determined that the majority had received no help from the counselor. In 1966 incoming freshmen to the University of Maine were asked which individuals they felt most influenced them to decide on their choice of college major. Thirty-nine percent listed high school teachers, 19 percent listed other adult acquaintances, and 38 percent listed father, mother, high school counselor, dean, or principal, and friends, 4 percent listed elementary teachers and other miscellaneous persons (E. Johnson, 1969). In another study (Drabick, 1967) the perceived source of influence on their choice of occupation by seniors in North Carolina high schools in 63 percent of the cases was themselves. Mothers and fathers were perceived to be some source of influence; however, guidance counselors were not mentioned. The high school exerted some influence on the expected occupation; 48.8 percent declared that the high school exerted a great deal of influence and 34.8 percent that the school exerted some influence. Factors other than high school guidance counselor appear to be most significant in a student's choice of major and/or occupation. Educational attainment and marital-familial status according to one study are the best predictors of whether a student will enter the sciences, a profession, teaching, or become a housewife. "Scholastic aptitudes, especially in the area of mathematics and high educational aspirations are the best predictors of a career orientation among young women." (Astin, 1970) There were certain differences to be noted between women students who chose traditional careers and those who had atypical career choices. For example, the atypical were more than twice as likely to have working mothers and the atypical mothers generally had more education. Two-thirds of the atypical were influenced by professors or by people in the occupation and many had had work experience, often related to their choice of occupation (Almquist and Angrist, 1970). Certain background characteristics were also important. The socioeconomic status of those choosing nontraditional occupations was significantly higher than that of the traditional. Theoretical orientation was the strongest predictor of nontraditional occupational choice followed by grade average in college and liking of math and science. The major group differences between those in traditional and those in nontraditional occupations are as follows: The nontraditional came from homes with higher income, their mothers had higher educational levels, they were more theoretically oriented, they were more liberally oriented toward the role of women in society, they were higher achieving students, they expressed a stronger liking for math and science, they had a higher academic average in college, they had more communication with the faculty with regard to their academic and vocational lives, they saw college more in terms of vocational and liberal educational benefits, they participated in college to a greater degree in social service and academically oriented activities, and they were less involved in artistically creative activities. Career choice appears to be largely a function of learned role. However, education seemed to have some influence (Karman, 1973).

The high school guidance counselor, however, does not appear to be as important in career choice as the high school experience itself. When asked to rank a list of twenty factors important in entrance into medicine, women medical students put "formal vocational counseling" second to last, followed only by "radio, movies, TV." (Lopate, 1968)

Although guidance counselors are assumed to be those educators most logically responsible for aiding in the career choice of students, in reality, this may not be possible. Studies suggest that a variety of roles are expected of the guidance counselor. In many secondary schools they may not have the time, the information or the influence to accept the major part of the responsibility for adequate career counseling.

Women in the Profession of Medicine

The number of women practicing medicine in this country remains relatively small and the question persists: why should this by so? Facets of this concern were explored at the Macy Conference, October, 1966 in Dedham, Massachusetts on "Women in Medicine." Implications from the conference led to Carol Lopate's book, Women in Medicine (Hopkins Press, Baltimore, 1968) which might well serve as the major background for this section. Readers are encouraged to consult her study for specific and inclusive data concerning the complexities of the problem.

A review of the literature in this section examines data pertaining to the following: general medical school admissions procedures; admission of women to medical schools; characteristics of women entering the field of medicine; factors influencing the choice of career; and problems relating to women in medicine.

General Medical School Admissions Procedures

The entire area of medical school admissions procedures is one of concern today and various ways are being sought to improve the efficiency of admissions procedures.

A comprehensive analysis of medical schools admissions procedures is available in the 73rd Annual Report of the AMA Division of Medical Education (Medical Education in the U.S. 1972-73). A trend noted by this report is reflected in the operation by the Association of American Medical Colleges of the American Medical College Application Service. The following table demonstrates the growing nature of this service:

	No. of Schools	No. of Applicants	No. of Applications
1970 (pilot)	7		
1971 - 72	56	22,801	137,921
1972 - 73	58	28,215	165,882
1973 - 74	70	33,853	224,647
1974 - 75	75		

In 1972-73 47,546 medical students were enrolled in U.S. medical schools, the largest enrollment ever. The increasing enrollment is, of course, paralleled by the increase in number of applicants and number of applications per applicant. The following figures, drawn from the AMA Summary of Application Activity, illustrates this growth:

Summary of Application Activity
During the Past 21 Years

1st Year Class	Applicants	Total No. of Applications	Applications Per Individual	Accepted Applicants	Applicants/Acceptance Ratio	First Year Enrollment
1952-1953	16,763	56,319	3.4	7,778	2.2	7,425
1957-1958	15,791	60,951	3.9	8,302	1.9	8,030
1963-1964	17,668	70,063	4.0	9,063	1.9	8,772
1969-1970	24,465	134,557	5.5	10,514	2.3	10,401
1972-1973	36,135	267,306	7.4	13,757	2.6	13,726

The academic average of applicants has been climbing as the following figures illustrate:

	A Average	B Average	C Average
1962	12.5	70.9	16.6
1966	13.6	77.8	8.6
1970	19.7	73.3	7.0
1971	24.0	70.0	6.0
1972	30.9	64.3	4.8

(A = 3.6 to 4.0; B = 2.6 to 3.5; C = less than 2.6 on a 4.0 system)

In 1972-73 715 foreign nationals were enrolled in U.S. medical schools, while in 1971-72 [illegible],715 Americans were enrolled in foreign medical schools. The push to accelerate minority enrollment was reflected in the increased enrollment of minority groups, from 5 percent of the total enrollment in 1969-70 to 10.2 percent in 1972-73. The increase was primarily in Afro-Americans, Mexican-Americans, Indians and Puerto Ricans.

Mark L. Rosenberg (1973) formulated a plan to increase the efficiency of the admissions procedure with the following objectives: (1) to reduce the cost of admissions to medical school, (2) to reduce application costs to the applicant, (3) to help each school get a "highly desirable student body" and (4) to improve the applicant's chance of admission to "his more desired schools." Rosenberg drew his suggestions from a study of admissions procedures at four American medical schools in the spring of 1972. His four suggestions were to: (1) publicize the criteria for admission, (2) use a one-page summary sheet for each applicant, (3) interview an applicant only when the decision could not be made without an interview and (4) rank on a continuum those applicants, not first accepted, who are to be seriously considered and he felt the American Association of Medical Colleges "should provide leadership in this area."

"A Follow-Up Study of Unsuccessful Applicants to Medical School" (Becker, Katatsky and Seidel, 1973) was an attempt to determine some characteristics of rejected applicants. Drawing a sample of 57 men and 41 women from those rejected in 1966 the authors concluded that a majority of these men (58%) and women (78%) received Bachelor degrees in 1966 with over 2/3 of both sexes having their degrees in the "hard sciences" (men - 70.2% and women 78.0%). The total GPA for this group was B- with the men ranging lower (C+ B-) than the women (B- B). There was a significant difference in the number of applications per rejectee, with the men having an average of 4.5 applications per person, while the women had an average of 3.8 applications per person. Also significant was the fact that 53 percent of the men applied to medical school a second time and only 20 percent of the women did so. Forty-five percent of the women compared to only 29 percent of the men considered their rejection fair, while 55 percent of the men and 28 percent of the women thought it was unfair; the remainder did not know. Seventy-four percent of the men, but only 42 percent of the women had, or expected to receive a graduate degree. Although 48 percent of the sample found a career in health-related occupations, over 80 percent of the women found in health-related occupations were lab technicians. It was evident from the data given by the study that the women had, on the average, achieved less with respect to further education and career attainment, than the men.

Admission of Women to Medical School

The admission of women to U.S. medical schools has grown throughout the years, as the following table shows (Medical Education in the U.S. 1972-73):

Women in U.S. Medical Schools
(Selected Years from 1939-1973)

	Women Applicants		Women in Entering Class		Total Women Enrolled		Women Graduates	
Academic Year	No.	%	No.	%	No.	%	No.	%
1939 - 40	632	5.4	296	5.0	1,145	5.4	253	5.0
1949 - 50	1,390	5.7	387	5.5	1,806	7.2	595	10.7
1959 - 60	1,026	6.9	494	6.0	1,710	5.7	405	5.7
1964 - 65	1,731	9.0	786	8.9	2,503	7.7	503	6.8
1969 - 70	2,289	9.4	952	9.2	3,390	9.0	700	8.4
1970 - 71	2,734	10.9	1,256	11.1	3,894	9.6	827	9.2
1971 - 72	3,737	12.8	1,693	13.7	4,755	10.9	860	9.0
1972 - 73	6,000	16.6	2,315	16.9	6,099	12.8	924	8.9

However, women are very much underrepresented in medical school and in the profession of medicine itself. The following figures from a study by Dube will illustrate this point: (Dube, 1973)

Women Medical Students and Graduates

	1960 - 61	1972 - 73
Number of Medical Schools	86	114
Total Enrollment	30,288	47,257
Women Students	1,745	6,066
Percent of Total	5.8	12.8
Graduates	6,994	10,000
Women	354	910
Percent of Total	5.1	9.1

	1961 - 62	1972 - 73
Total Applicants	14,381	37,000
Number of Women	1,166	5,920
Percent of Total	8.1	16.0
Entering Students	8,483	13,570
Women	674	2,284
Percent of Total	8.0	16.8

	1961 - 62		1971 - 72	
	Women	Men	Women	Men
Number of Applicants	1,166	13,215	3,737	25,435
Number Accepted	736	7,946	1,685	10,650
Percent Accepted	63.2	60.1	45.1	41.9

The percentage of women physicians in the United States is far lower than that of other countries. For example, in Canada 12 percent of physicians are women, in England the percentage is 25, in Western Europe also 25 percent and in Russia the percentage of women physicians is between 70 and 75 (Jones, 1971). This is not to say that a larger proportion of young American women are not interested in the profession of medicine. A study by Matthews (1970) showed that approximately 23 percent of the freshman women at Duke in 1967 indicated some interest in medicine. However, when they were seniors only 5.1 percent applied to medical school. Women are not the only persons to be deterred from a career in medicine. There is in undergraduate years a 42.8 percent proportional decline in medicine as a career choice (Davis, 1965). Of those accepted to medical school, 2.6 percent of men and 5.3 percent of women choose not to attend (Dube, 1970).

Characteristics of Women Entering the Field of Medicine

Women entering the field of medicine have certain characteristics in common which serve to differentiate them from the population at large. A major study by Ginnsberg (1966) reveals the following characteristics of professional women: most of them come from metropolitan areas; at least one parent of 60 percent is a college graduate; just over one-third of the fathers have professional, academic or executive positions; most come from small families; two-thirds are Protestant, one-quarter Jewish; 72 percent of professional women are married or have been, and 40 percent of their husbands have a doctorate. Three-quarters of their mothers had worked or were working, 84 percent of their parents had encouraged their career goal and three-quarters of them were working either full or part-time. The key influences were found to be teachers in high school and especially in college. (The above information is supported by studies of Fortner, 1970 and Marmor, 1968.) Alice Rossi (1965) selected the following characteristics to be those of outstanding women scientists;

(1) high intellectual ability, (2) extreme independence, (3) persistence in work and (4) apartness from others.

Women who enter the profession of medicine can be characterized as role innovators, and as role innovators they have the following characteristics; their mothers are more likely to be working and also to have a role innovative profession. The extent to which living with a husband is a challenge is higher among role innovators than among those in traditional professions. They are more individualistic, less conventional, more intellectual, and have more conflict over combining a career and marriage. They also have more commitment to their chosen profession (Tangri, 1971).

Due to the rigors of medical school, only those of high ability are able to attend. Therefore, the characteristics of high ability college women as detailed by Faunce (1971) are of interest to this study. High ability college women achieve more, pride intellectual accomplishment, are more liberal and unconventional, have a tendency toward extroverted interests and are inner-directed and future-looking. This information is supported by the study of Karman (1973).

Factors Influencing the Choice of Career

Women with atypical career choices were more than twice as likely as those with typical career choices to have a working mother and the mother had more education. Two-thirds of these women were influenced by professionals in the occupation. They also had work experience and their work values included; using their special ability, freedom from close supervision, the desire for a high income and a lack of interest in working with people or helping others (Almquist and Angrist, 1970). A study by Cartwright (1972) revealed the following characteristics of women medical students; they scored the lowest on femininity, communality, socialization, and self-control. Interestingly, only 17 percent came from families with more than three children; in 13.8 percent of the cases they were the only child, in 32.6 percent they were the first born, and 48.3 percent of the women were the second born. Over two-thirds of their fathers had at least a college education and 41 percent of the fathers had more than a college education. Approximately 43 percent of the mothers had received a college degree with 17 percent of the mothers having more than a college education. However, the mother's occupation was in most cases (93 percent) the traditional one of housewife, teacher, nurse, social worker or secretary. Among these women Anglo-Saxon was the predominant ethnic strain, 60 percent were Protestant, 19 percent Catholic, and 14 percent Jewish (Drabick, 1967). Carol Lopate's study of women in medicine (1968) shows that 60 percent come from large cities or suburbs, they generally come from financially secure families, they possess a desire for personal independence, the mother is more educated and more often a professional than those in traditional occupations, the women are influenced by books, articles, movies about doctors more than the men. They give the following reasons for entering medicine; (1) interest in people and interest in science, (2) curiosity about the body, (3) service motive and (4) desire for personal independence. A number of factors influence the choice of medicine for these young women. A study of all medical students revealed that these factors were important in their choice of medicine as a career; (1) prestige and status, (2)altruism, (3) "always knew," (4) influence of others (probably the most common reason), (5) process of elimination, (6) unconscious motives and (7) interest in a particular specialty (McGuire, 1966).

Astin's study (1970) reveals that the best predictors of occupational choice are the student's educational attainment, her marital-familial status, her scholastic aptitude (especially in mathematics) and her socioeconomic status.

Women medical students listed the following factors as being influential in their choice of medicine as a career; (1) interest in the biological sciences, (2) a desire to help people, (3) an interest in psychology, (4) experience with sick people, (5) the prestige of the profession, (6) a desire for independence and (7) an encouraging relationship with an adult (Williams 1971).

Problems Relating to Women in Medicine

Women medical students have certain peculiar problems. One problem is the "anti-medical" counseling in college which discourages many women from entering medical school. Once in medical school women students find that many men medical students and faculty openly resent them, feeling that they have taken the place of a man who will give more time to the profession of medicine. The women find the environment to be very serious, highly competitive, and with grinding pressure, and the demanding internship schedule presents a problem, especially to the married woman with a family. Marriage and especially pregnancy are probably two of the most serious problems faced by women medical students and their influence is felt in such things as the board requirements for specialties which lengthen residency requirements sometimes beyond the reach of some women (Bowers, 1968). A study by Jones (1972) revealed the following breakdown of stress situations among women medical students; academic - 40 percent, personal problems - 27 percent, conflict with faculty - 5 percent, patient care - 6 percent, financial -

5 percent.

The performance of women medical students as compared and contrasted to that of male medical students is of interest. A study performed by Wineberg (1973) revealed that in National Board Examinations men outperform women in Part I of the examination which is given in the second year, but there is an almost equal performance of men and women in Part II which is given in the last year of medical school. This indicates that women enter medical school at somewhat of a disadvantage to men, but at the end of the four years they are performing on an equal level. Attrition is another way to guage the performance of women medical students. Attrition rates for academic reasons for men are 5 percent and for women are 7 percent; however, attrition for reasons not relating to academic performance finds men with a rate of 3 percent and women with a rate of 8 percent. Women are members of the medical honorary, Alpha Omega Alpha, in the same proportion as their representation in the class. With regard to the Medical College Admissions Test scores, women score lower in Quantitative Ability and Science tests, yet they excel in Verbal Ability tests and score slightly higher in the test of General Information (Wineberg, 1973).

However, despite the problems many women do successfully complete medical school and join the ranks of the women physicians. Fifteen thousand five hundred women were listed as physicians and surgeons and this number represented one sixteenth of one percent of the total female working force (Marmor, 1968). Women represent 6.7 percent of the physicians in the United States (Nadelson, 1972). The Lopate study (1968) reveals that three specialty fields claim over 50 percent of all women physicians. These fields are pediatrics, internal medicine and psychiatry. This information is supported by the Jones study (1972).

Ninety-one percent of those women eligible to practice medicine are practicing either part or full time. Thirty-five percent of these people are board certified (Shapiro, 1968). A study by Wirkstrand, Monk, and Thomas (1970) shows the number of women with specialty boards as 27 percent and the number of men having specialty boards as 60 percent. A study by Rosenlund and Oski (1967) indicates that 44.4 percent of women practice full time and 47.2 percent practice part time.

Of practicing women physicians 22 percent earn $20,000 or more and 14 percent earn less than $10,000 (Shapiro, 1968). The average yearly income of women physicians is $11,789 while the average yearly income of men physicians is $31,602 (Rosenlund and Oski, 1967). The average hours worked per week for women are 36.4 while men work at a higher rate of 58.2 hours per week. Single women outperform married women as their average hours per week are 45.0 compared to that of the married women of 34.4 (Rosenlund, 1967).

A comparison of male and female physicians shows that over one-third of women are in fixed hour or fixed salary positions while less than 15 percent of men hold these positions. Women, however, showed slightly higher tendencies to specialize and have been in full-time practice an average of 15.8 years compared to men physicians who have been in full-time practice an average of 19.2 years. Men have been in part-time practice an average of 6 years while women have been in part-time practice for an average of 6.7 years. Women work a mean hours-per-year of 1,835 which is a 38-hour work week while men work 2,600 mean hours-per-year, a 52-hour work week (Phelps, 1968). A study by Harding (1972) shows 83 percent of certified women are in active medical work as compared to 90 percent of certified men in active medical work.

Women have made many contributions in the field of medicine, in research, teaching, public service, and private practice especially in the areas of child psychiatry, congenital deformity, cancer research and public health. Margaret Sanger and women physicians of New York were the first to open a birth control clinic in the United States and in 1916 the Margaret Sanger Research Bureau was opened. The American Medical Women's Association has been progressive in the areas of the health and welfare of women, especially in family planning. The Memorial Sloan-Kettering Cancer Center has many women with active roles. An interesting sidelight is that single women exceeded men in the publication of books and memberships in honorary societies (Lopate, 1968).

The above studies suggest that medical schools are becoming more responsive to the improvement of admissions procedures generally and that admission of women to medical schools has grown throughout the years, although the percentage remains relatively small. Results of much research on characteristics of women in medicine suggest they are role innovators and as such are less likely to be influenced by the existing climate of opinion which reflects traditional roles for women in American society. The various studies of aspects influencing career choice in medicine indicate the complexities involved in any generalization about occupational choice. Once in medical school, women do find they have special problems, perhaps because the profession projects an essentially masculine picture of success to them.

Although the review of literature indicates that guidance counselors may not have the time nor the information concerning the special conditions of women entering the medical profession at present, Carol Lopate suggests this need not prevail. "There is no absolute, built-in limitation on the effect that a high school counselor (or college advisor for that matter) can have. An intelligent, energetic counselor who manages an easy rapport with the students can use the position as a wedge to expand the hopes and achievement drives of a significant segment of the school." (Lopate, 1968)

CHAPTER 3

RESEARCH METHODS AND PROCEDURES

CHAPTER III

Research Methods and Procedures

This study on the attitudes of high school guidance counselors toward women entering the profession of medicine was conducted from July 1, 1973 to September 1, 1974 at the University of Pittsburgh. One purpose of this study was to obtain an indication of the attitudes of guidance counselors in Western Pennsylvania high schools toward the profession of medicine as a career choice for women. As stated in Chapter I of this study, attitude is defined as "an enduring, learned predisposition to behave in a consistent way toward a given class of objects." Although the most common method of measuring attitude is by construction and administration of an "attitude scale" of the Likert type, wherein the respondent states his or her degree of agreement or disagreement with a series of statements, this method was not used in the present study. Likert scales have been demonstrated time and again to be sensitive to bias from socially acceptable responses and in a study such as this wherein it would be very difficult to camouflage the nature of this study; that is, an inquiry into possible bias on the part of the respondents, it was felt that a paired-comparison task of the type to be described below would be more appropriate. For this task, 12 profiles were designed, each to represent a high school student seeking information from a high school guidance counselor regarding the possibility of his or her pursuing medicine as a career. The following information was included for each student in his profile: (1) name, (2) age, (3) sex, (4) race, (5) father's occupation, (6) mother's occupation, (7) percentile rank in class, (8) courses taken in math, (9) courses taken in science, (10) College Entrance Examination Board percentile scores, (11) extracurricular activities and (12) general comments reflecting the relative degree of interest or reason for the student's inquiry of the guidance counselor.

In a pilot study conducted with 25 graduate students in educational counseling at Bryn Mawr College, the following task was given: Students were given a set of the 12 profiles each on 12 different cards and a response sheet which listed the 66 possible ways the profiles could be paired. Students were then asked to make the following decision: For each pair of students which one would they most strongly advise to pursue an academic career leading to medical school. The purpose of this was to determine the difficulty of the task for the student and to learn if the participants would perceive the basic intent of the study. This phase of the study was completed by September, 1973. Analysis of the data indicated the task was not unreasonably hard for the students, the directions were clear and only 2 of the 25 students guessed that the basic intent of the study was to investigate sex bias on the part of counselors. For the most part the perception of the study was seen to be simply one of role-playing to determine the general perception of guidance counselors of the important factors which went into their decision making process. Based on an evaluation of the responses of the Bryn Mawr students, the profiles were modified somewhat. The revised profile contained the following information: (1) name, (2) sex, (3) race, (4) father's occupation, (5) mother's occupation, (6) science courses taken, (7) science GPA, (8) math courses taken, (9) math GPA, (10) percentile rank in class, (11) College Entrance Examination Board Verbal score, (12) College Entrance Examination Board Quantitative score, (13) extracurricular activities and (14) comments.

In order to make the choices more realistic for the purposes of this study each profile was based as much as possible on academic and personal records of students admitted to the University of Pittsburgh School of Medicine. It was felt that by basing all of the profiles upon persons who had been admitted to this school of medicine, we would narrow the range and perhaps eliminate the more obvious variables which would enter into the guidance counselor's decision making process. For example, it would be quite obvious that a guidance counselor would not steer someone who is performing at the bottom of his class into medicine as a career and that a more subtle variable such as sex would have a greater opportunity to manifest itself where the other variables were of limited range. The analysis of the paired-comparisons data was done by means of a nonmetric scaling technique called Smallest Space Analysis (Shepard, Romney and Nerlove, 1972). The basic goal in this technique is that of "representing N objects geometrically by N points so that the interpoint distances correspond in some sense to the experimental or perceived dissimilarities between objects." Thus, in the analysis of this data each high school student's protocol is represented on a graph or table as a point and by examination one should be able to determine by the relationships of the various points whether or not particular variables were of significance to the guidance counselors in making their decision. It should be stressed that this statistical technique is not of the hypothesis testing type such as analysis of variance or t tests, but rather simply a means of representing complex data in a visible fashion to make it more understandable. In some sense, the technique is analogous to factor analysis though it makes no assumptions about the underlying nature of the data that are being represented except that they have ordinal relationships; that is, one person is perceived more often by a group of people to be more suitable for medical school than another person.

Three questionnaires were designed for use in this study. The first questionnaire (I) was developed for women medical students at the University of Pittsburgh. It was constructed to ascertain the following: 1) Who was most influential in their choice of career? 2) To what degree was the high school guidance counselor influential on their decision of medicine as a career? 3) What were the major problems they faced as applicants and students of medical school?

An additional purpose of the questionnaire was to determine the congruency of the responses given by the student with those of the counselors.

Two questionnaires were devised for use with the guidance counselors. The first, a biographical one (II) was mailed with the profiles and included no information which could indicate the basic intent of the study. It contained questions to determine the nature of the guidance counselor population, for example, age, sex, race, educational background, years as a counselor, counselor functions, time spent in counseling and each guidance counselor's perception of his or her effectiveness with regard to various counselor functions. This questionnaire is included in Appendix B.

Developed during the course of this study, the second and more extensive questionnaire (III) included material to supplement the information received from the guidance counselors' completion of the paired-comparisons task. This questionnaire is included in Appendix C.

The questions included in Questionnaire III were derived from a variety of sources. The review of the literature indicated that guidance counselors do have a different perception of the place of women in the professions as compared with that of men (Persons, 1972; Pietrofesa and Schlossberg, 1970). The literature also gave a picture of the functions of the guidance counselor (Sweeney, 1966; Vanderpan, 1970; Duncan, 1965) and the effectiveness of the guidance counselor in certain areas of concern. The information derived from the literature suggested that the guidance counselors were not particularly effective in the area of career counseling (E. Johnson, 1969; Drabick, 1967) especially for those students contemplating a career in the professions. The guidance counselor's expertise seemed to center more on the areas of scheduling and college counseling. A general conclusion reached by the review of the literature was that guidance counselors were not very effective in relation to the career choice of women who chose to enter the profession of medicine (Kennedy, 1969; Runkel, 1962; Jenkins, 1971; Drabick, 1967; E. Johnson, 1969; Astin, 1970; Almquist and Angrist, 1970).

The literature review surveyed women's participation in the professions and specifically the profession of medicine. This section of the review of the literature was used to develop questions to test the knowledge of guidance counselors about the circumstances of admitting women into medical school and the problems and experiences of women while they were medical students.

Issues raised in the literature provided several questions on the medical student questionnaire. For example, Jones (1971) has indicated that the percentage of women physicians in the United States is much lower than in Western Europe, Canada and Russia. Therefore we sought to determine if the women had considered other careers. In addition several other questions were used to ascertain if the women medical students had been discouraged from entering the profession of medicine and, if so, by whom. Ginnsberg (1966) indicates that women who enter medicine are likely to have certain characteristics, such as 1) coming from a metropolitan area, 2) having one or more parents who was a college graduate and 3) having an over-representation of fathers in professional, academic and executive positions. Questionnaire I examined this sample of women medical students to see if they possessed the above mentioned characteristics. Jones (1972) suggests that the problems faced by women in medical school are largely of a personal rather than academic nature.

Lopate (1968) states that more than 50 percent of all women enter the 3 specialty fields of pediatrics, internal medicine and psychiatry and Questionnaire I attempted to validate the accuracy of this information with respect to the women medical students at the University of Pittsburgh.

The answers from Questionnaire I in turn yielded areas to be included in the questionnaires for the guidance counselors. These areas included the relationship of the women medical students with their own high school guidance counselor, how important they felt the high school guidance counselor was in their choice of career, their own experience with the medical school admissions procedure, the problems they were facing while in medical school and their relationship with various groups within the medical school. It was anticipated that a comparison of the answers of the guidance counselors with those of the women medical students, supported by the findings in the literature would yield information regarding the knowledge of guidance counselors on the position of women in medicine, the admissions procedure and some indication of the personal attitude of guidance counselors toward women in medicine.

Some of the data generated from each of the questionnaires proved to be irrelevant for purposes of this study. This data will be included in the tables of Appendices A, B and C but may not be discussed when answering any of the research questions.

Logistics of the Study

The pilot study was completed in the fall of 1973. In April, 1974, the revised profiles were mailed to a sample of 119 guidance counselors in Western Pennsylvania who were chosen in the following manner:

The Pennsylvania Department of Education has organized the Commonwealth into 28 Intermediate Units, which were used in the delineation of the sample.

Group A included 61 guidance counselors in Intermediate Unit II (Pittsburgh) and Intermediate Unit III (Allegheny County) public schools and 3 guidance counselors in 2 non-public schools in Allegheny County. Every high school in Intermediate Unit II (Pittsburgh) and Intermediate Unit III (Allegheny County) was contacted and asked for the name or names of the guidance counselors who would be counseling seniors in the academic year 1973-74. Because of the way the counseling load is chosen, this clarification was necessary. In some schools the counselors are assigned to different classes each year, while in others, due to random or alphabetical organization, their load may contain students from every class. Thirteen public high schools in Intermediate Unit II (Pittsburgh) and 48 public high schools in Intermediate Unit III (Allegheny County) were contacted. Because some schools had more than one guidance counselor, a list of 108 guidance counselors who worked with seniors was compiled. A letter (Appendix E) was sent to each of the counselors by name; a total of 92 of the 108 counselors indicated they wanted to participate by returning an enclosed postcard. The student profiles were then sent to these participants with an answer sheet and a letter of instruction. They also completed the biographical questionnaire (II). Sixty-one of the counselors completed all the materials and they were then interviewed either by phone or in person by an interviewer.

Of the 58 non-public high schools, 8 were randomly selected and the same letter as described above, explaining the project was sent to each of their guidance counselors. Three counselors agreed to participate and followed the steps of the project returning the appropriate information.

Forty counselors were included in Group B. This portion of the sample was compiled in a slightly different manner. Using the organizational unit of the State Department of Education the following Intermediate Units in Western Pennsylvania were included--Units I, IV, VII, XXVII and XXVIII. The 108 secondary schools in this sample were located in the following counties: Fayette, Greene, Washington, Butler, Lawrence, Mercer, Westmoreland, Beaver, Armstrong and Indiana. The same procedure was followed as with Group A except that the follow-up questionnaire (III) was completed by the counselors themselves without the aid of an interviewer. Out of a total of 88 counselors indicating a willingness to participate only 40 actually completed the required tasks.

Analysis of Data

The guidance counselors were given 12 - 5 x 7 cards on which were academic and personal profiles of the high school students for which they were to make guidance decisions in the paired-comparisons task. A response sheet on which the guidance counselor could indicate their decision had listed all of the 66 possible pairs of the 12 students randomly to eliminate the possible order effects. Taking one pair of students at a time the guidance counselors were instructed to circle the letter of that student whom they felt would be most successful in medical school. Copies of the academic profiles, letters of instruction and answer sheets appear in Appendix E.

Using Guttman-Lingoes "MINISSA" computer program (Lingoes, 1973 and Guttman, 1968) the responses of the guidance counselors to the paired-comparisons task resulted in a representation of the students as shown in Figure 3. The arrangement of points in this figure was analyzed to determine if there was any meaningful clustering by the various variables of interest in this study: sex, GPA, race, rank in class, etc.

The sample of guidance counselors was then sorted according to sex to determine if the sex of the guidance counselor had any effect upon the representation of the student profiles. This representation appears in Figures 6, 7, 8 and 9. Similarly the data was examined according to the age of the guidance counselor in Figures 10, 11, 12 and 13 and also according to the length of service (Figures 14, 15, 16 and 17) and type of school district in which they worked (Figures 18, 19, 20 and 21).

Prior to the collection and analysis of the data from the guidance counselors a sample of women medical students at the University of Pittsburgh School of Medicine were interviewed during January and February, 1974. A questionnaire was devised and tested on 6 of them. It was revised and 40 women medical students were interviewed: 3 of the 9 women (33 percent) from the Class of 1974, 9 of the 30 women (30 percent) from the Class of 1975, 12 of the 25 (48 percent) from the Class of 1976 and 16 of the 24 women (67 percent) from the Class of 1977. All women medical students at the University of Pittsburgh were invited to participate in the study. The over-representation of the graduating Classes of 1976 and 1977 might have had the effect of misrepresenting the data. For example, more than 50 percent of all students interviewed said they had not decided on a specialty. Had the percentage of students in the upper classes been greater, this would probably not have been the case. In addition, the problems noted by the women may have been of a different nature had the representation among all 4 classes been more equal. The students' perceptions of their relationships with faculty members might have been more specific if a greater percentage of them had been upperclasswomen.

Questionnaire I was evaluated in the following manner. Forced choice questions were tabulated, while open end questions (those asking for a more detailed response) were analyzed and an attempt was made to categorize the answers.

The first of the guidance counselor questionnaires (Questionnaire II) was, as has been previously noted, developed primarily to secure biographical data from the guidance counselors. This information was tabulated for use in answering the research questions.

Questionnaire III was administered either by mail, as a personal interview or as an interview over the telephone. Because of geographical distances involved, it was felt that it would be impractical to interview the entire sample of guidance counselors. Thus, the sample of guidance counselors referred to as Group A were those within Allegheny County and were those who were interviewed either personally or by phone; and those counselors referred to as Group B were those in the surrounding counties who completed Questionnaire III by mail and returned it without consultation from the staff. Even though an interviewer (woman) might provide an uncontrolled source of bias it was felt that she would be helpful in eliciting more detailed information regarding various questions and would also help to clarify questions that perhaps would be misinterpreted by the respondents, as turned out to be the case in several instances.

For example, question 23 asked, "What would you consider to be the most serious problems encountered by medical students?" The guidance counselors in Group A were specifically told by the interviewer not to include "admissions" in their answer, yet many of the guidance counselors in Group B did answer "admissions," which was not the intent of the question.

In question 29 the guidance counselors were asked, "Have you actively discouraged students from entering the profession of medicine as a career?" It was the opinion of the interviewer, which is indicated in the results, the use of the word "actively" deterred some guidance counselors from answering in the affirmative. Similarly, in question 20 which asked, "Do you think medical education has changed significantly in the last 10 years in terms of acceptance of women, acceptance of other minority groups, etc.?" the interviewer pointed out the use of the word "significantly" made some guidance counselors qualify their answers.

Question 8, "In the choice of a medical career, what influences do you think are important to the student?" was designed to elicit responses of people who might have been influential in the decision making process, but the question could have been interpreted in various ways.

One possible problem noted with use of the interviewer has to deal with the sample itself: 65 percent of the guidance counselors interviewed were men. While it was impossible to determine exactly what effect this had on the answers of the guidance counselors, it was the opinion of the interviewer that in some cases the male guidance counselors might have talked more freely to a male interviewer.

Copies of Questionnaire III were mailed to the guidance counselors in Group B. The primary reason for this was that these guidance counselors were scattered over a sizable area of Western Pennsylvania and financial considerations made a mailed questionnaire the most feasible means of delivery. It was understood that since the guidance counselors in Group B were able to see the entire questionnaire before answering, the intent of the study might be perceived by them and reflected in their answers.

The questionnaires completed by the guidance counselors (Questionnaire III) were evaluated in the same manner as those completed by the women medical students (Questionnaire I). The forced choice questions were tabulated while the open end questions were analyzed and categories developed within each question. Since Questionnaire III was administered in a different manner to Groups A and B of the guidance counselors, their responses were considered separately, although the data received from the paired-comparisons task was combined. Where the method of administration of the questionnaires appeared to be a source of a difference in counselor responses, the obvious ones were checked using appropriate statistical tests. A discussion of apparent dissimilarities between the responses of Groups A and B appears in the answers to the research questions where it is appropriate.

The data was analyzed and evaluated in order to answer the research questions listed in Chapter I.

CHAPTER 4

FINDINGS

Research Question 1

What is the nature of the attitudes of guidance counselors in Western Pennsylvania high schools toward women entering the profession of medicine?

To answer this question 119 guidance counselors in Western Pennsylvania completed the paired-comparisons task of predicting which high school student in 66 pairs of choices would be most successful in medical school. Their answers were coded, punched and using the Guttman-Lingoes "MINISSA" computer program the configuration in Figure 3 was found. Kruskal's Stress (Kruskal, 1964) was used to test the goodness of fit of the data. This measures the "to-be-minimized departure from the desired monotonic relation between the given proximity data and the distances..." (Shepard, Romney and Nerlove, 1972). Kruskal (1964) has indicated approximate practical criteria for interpretation of this statistic which are as follows:

Stress	Goodness of Fit
20.0%	Poor
10.0	Fair
5.0	Good
2.5	Excellent
0.0	"Perfect"

In general the stress factors for the data in this study for a 3-dimensional representation indicate a fair measure of fit and a 2-dimensional representation indicates a poor measure of fit. Nonetheless a 2-dimensional representation appears to give a satisfactory representation of the data for all practical purposes and thus will be used throughout the course of this study.

As discussed in Chapter III, relative locations of the high school students on Figure 3 should indicate on what basis the guidance counselors made their choice. Those students near each other on the graph should have some characteristic or characteristic(s) in common. Table 1 is presented to aid in interpreting the configuration; it is a summary of much of the data contained on the profile cards.

TABLE 1

Summary of Information Included on Student Profiles

Student	Sex	Race	Science GPA	Math GPA	Rank	Verbal CEEB	Quantitative CEEB
1	Male	White	3.83	3.23L	90	620	715
2	Male	Black	3.20L	3.20L	85L	534L	407L
3	Female	White	3.89	3.77	95	719	762
4	Male	White	3.63L	3.00L	85L	443L	608
5	Female	White	3.79	3.12L	90	691	545L
6	Female	Black	3.19L	2.87L	85L	497L	444L
7	Male	White	3.82	3.92	95	523L	611
8	Male	White	3.94	3.93	95	630	700
9	Female	White	3.39L	3.27	85L	673	705
10	Female	White	3.88	3.62	95	455L	527L
11	Female	Black	2.83L	2.87L	80L	560	570L
12	Male	Black	3.27L	3.33	90	500L	610

L = Low

The characteristic of Father's Occupation was eliminated from consideration as it paralled the Male-Female characteristics since the fathers of all but one of the male students had a professional occupation, while the fathers of all but one of the female students were engaged in non-professional occupations. The category of Mother's Occupation did not lend itself to analysis as the occupations listed for the mothers were those traditionally accepted for women and also could not be differentiated as professional or non-professional. Although the "Comments" and "Extracurricular Activities" sections of the profile are not included in the summary, they were included in the analysis of the data.

As can be seen in Figure 3, there are no immediately apparent clusterings of the students. Several students do appear to be grouped together, but the groupings contain only a few students each.

When the students are identified by sex (Figure 4) no order becomes visible. Some male and some female students are in close proximity to one another, but the male students are not clearly separated from the female students. Female students 9 and 10 are in a relatively tight grouping and female students 5 and 6 are also rather close, but the 2 groupings are not contiguous and the placement of female students 3 and 11 follow no apparent arrangement. The male students are even more widely scattered with no two of them being very close. The indication from this data is that the sex of the high school students was not a major factor in the decisions made by the guidance counselors.

The race of the students was examined and again no grouping was discernible. The white and black students were scattered throughout the graph. A similar result was obtained when Science GPA and the Combined GPA (Math and Science) were analyzed.

When the students were examined according to Rank in Class, a clustering did become evident. Those of Low Rank (80th and 85th percentile) were clustered in one area of the graph while those of High Rank (90th and 95th percentile) were clustered in another section. With no overlap between the two groups, this suggests that the counselors based their choice of which students would be most successful in medical school at least in part on the student's Rank in Class. This result was somewhat surprising as the other quantitative measures did not yield similar results. As has been discussed, no clustering was found when Science GPA and Combined GPA were examined and examination of the students with respect to CEEB Verbal score and CEEB Quantitative score also did not result in 2 clearly definable groups. Further reflection reveals the Student Rank in Class is, however, a viable criterion for the decisions made by the counselors. Students 2, 4, 6 and 11 are clearly low in most quantitative measures while students 1, 3, 7 and 8 are high in most quantitative measures. However, students 5, 9, 10 and 12 are neither clearly high nor low. Student 5 is high in Science GPA, Rank in Class and Verbal CEEB score, but relatively low in Math GPA and CEEB Quantitative score. Though student 9 is low in Science GPA and Rank, he is high in Math GPA and both CEEB scores. While student 10 is low in both CEEB scores, high in both GPA's and Rank, student 12 is low in Science GPA and Verbal CEEB score, but high in Math GPA, Rank and Quantitative CEEB score.

Rank provides an easy and objective measure for decision making. Since the students are not arranged on a continuum from high to low academically, many decisions are possible. Using Rank in Class as a most important criterion reduces the necessity to make fine differentiations between the capabilities of the students. It should be emphasized at this point it is the total guidance counselor population which is being discussed and the possibility of individual guidance counselors making decisions on other criteria is not precluded.

Although objective criteria seemed to be the most reasonable ones to expect as the basis for decision making by the counselors, the arrangements of the students with respect to "Comments" and "Extracurricular Activities" were examined. No observable clusterings resulted. Thus, of the characteristics listed on the student profiles, only Rank in Class appeared to serve as a consistent basis for the decisions by the counselors of which of these students would be most successful in medical school.

To eliminate the possibility of the analysis being the result of an artifice of the data, the original coefficients were examined to determine which students were actually chosen most often. This examination revealed student 3, a white female, was most often chosen. She was chosen (out of a possible 119 choices): 91 times in preference to student 1, 114 times in preference to student 2, 115 times over student 4, 116 times over student 5, 118 times in preference to student 6; 99 times student 3 was preferred over student 7, 96 times student 3 was preferred to student 8; student 3 was chosen in preference to student 9 - 114 times, 112 times in preference to student 10, 117 times in preference to student 11 and 112 times in preference to student 12.

Students 7 and 8 (white males) followed student 3 with student 8 having perhaps a slight advantage over student 7. One interesting result of the examination of the coefficients was the discovery that student 12, a black male, was chosen more often than might be expected, especially when paired with the female students. Although student 12 was chosen only 17 times in preference to student 3, he was preferred over student 5 (white female) 88 times, over student 10 (white female) 72 times, over student 9 (white female) 95 times and over student 6 (black female) 113 times. Although student 12 is clearly academically superior to student 6, such is not the case when student 12 is compared to students 5, 9 and 10 as can be seen from an examination of Table 1. Student 12 was chosen in a more usual fashion when compared to the male students. While chosen only 32 times in preference to student 7 and 35 times over student 8, he was favored 105 and 106 times to students 2 and 4 who were academically below him and 46 times to student 1 who had a slight academic advantage. This characteristic of student 12 is reinforced by the graph (Figure 3) where he can be seen to occupy a position with no other students in close proximity. Perhaps this is a slight manifestation of sexism or a tendency on the part of guidance counselors to give some preference to black students as a result of the various black movements. But any attempt to be more precise would be sheer speculation. The other black male student (student 2) who is low in all quantitative factors occupies a position with the other students who are low in these factors. The examination of the coefficients yielded no other meaningful results.

In summary, the use of Smallest Space Analysis to order the data resulted in only one primary finding: this population of guidance counselors used the criterion of Rank as a basis for their decision as to which students would be more successful in medical school. This data does not appear to support a thesis that the guidance counselors have a different attitude toward women entering the profession of medicine than they do toward men becoming physicians. In addition, none of the other criteria listed on the profiles appeared to be uniformly important in the decisions made by the guidance counselors.

To extend the results obtained in this section of the study, the questionnaires were examined and the results obtained addressed to the research questions.

To examine further the question of the attitudes of guidance counselors in Western Pennsylvania high schools toward women entering the profession of medicine the following questions were asked the guidance counselors:

1. Do you think a woman can pursue a career in medicine as successfully as a man? Why or why not?
2. In recommending a student for application to a college or university, please rate the following factors as to their importance to you: QPA, CEEB (SAT) Scores, IQ, Extracurricular Activities, Motivation, Sex, Race, Other
    1. Very Important
    2. Moderately Important
    3. Minimally Important
    4. Not Important
3. What characteristics of a woman do you feel are most important relative to success in the field of medicine?
4. Are you aware of anything that has changed your attitude toward women entering the profession of medicine? If so, what?
5. Do you think women would be more successful in some fields of medicine such as pediatrics, rather than in other fields such as surgery? Why or why not?
6. Do you think women are more suited to some fields and less suited to other fields? Why or why not? If your answer was "Yes," which fields would you consider most suitable for a woman? Least suitable?
7. Do you think that men are more suited to some fields and less suited to other fields? Why or why not? If your

answer was "Yes," which fields would you consider most suitable for a man? Least suitable?

8. Do you make an effort to encourage members of minority groups such as blacks to enter medicine? Members of low socio-economic status? Women? Why or why not?
9. Do you think a student of average academic ability can succeed in medical school? Why or why not?

In addition, the women medical students at the University of Pittsburgh were asked their opinion of the attitudes of guidance counselors. The following questions were asked the women medical students:

1. Did you ever get direct counseling information from a high school guidance counselor about your choice of career?
2. What kind of information?
3. Based on your experience do you think a guidance counselor would tend to be more cautious about a young woman applying for medical school than a young man applying for medical school? Why or why not?
4. Did anyone actively discourage you from pursuing medicine as a career?

The guidance counselors were asked, "Do you think a woman can pursue a career in medicine as successfully as a man?" The answers in Table 2 show that in both groups of counselors, more than 3/4 of the counselors thought women could be as successful as men:

TABLE 2

Do You Think a Woman Can Pursue a Career in Medicine as Successfully As a Man?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes*	62	96.88	33	82.50
No**	2	3.13	7	17.50
No Answer	0	00.00	0	00.00
Total	64	100.01	40	100.00

In the case of those guidance counselors who were interviewed (Group A) almost all of the counselors thought women could be as successful as men. It is not clear why the proportion of counselors answering affirmatively in the group who received mailed questionnaires is quite a bit lower. In order to determine if the method of delivery of the questionnaire was significant a chi square test was performed on this question. The hypothesis that the answers varied because one set of questionnaires was mailed to the guidance counselors (Group B) while the other counselors were interviewed (Group A) was rejected. The answers of those responding "Yes" were tabulated as follows:

TABLE 3

Why Or Why Not? (Yes*)

	Group A Number	Group B Number
Capability, Not Sex Important Factor	34	20
With Reservations	13	6
Better Opportunities for Women	10	2
Women Have More Appropriate Characteristics	8	0
Personal Experience/ Observation	4	1
Personal Opinion	4	0
Other	4	2

Many counselors cited capability as being the most important criterion for success and explained a woman could be judged successful on that basis. Some of the counselors (Group A - 13, Group B - 6) who answered "Yes" did so with reservations. Those with reservations mentioned the problem of acceptance by others within the profession, the length of time required to complete the course of study, the possibility of a woman getting "side-tracked" into marriage and the societal pressures exerted on a woman in a traditionally male field, among others. While those guidance counselors with reservations were in the minority, it is still important to note their reservations as they indicate some guidance counselors would consider women entering medicine somewhat differently than they would consider men entering medicine. Those few guidance counselors answering "No" most frequently listed societal limitations and prejudices (perhaps reflected by their own bias although not necessarily) as the following table shows:

TABLE 4

Why Or Why Not (No**)

	Group A Number	Group B Number
Not as Many Opportunities for Women	1	0
Women are Different/Could be Good in Some Cases	1	0
Societal Limitations/ Prejudice	0	5
Marriage/Family	0	2
More Men in Field	0	1

In an attempt to evaluate the importance placed on sex as a criterion for admission to medical school, guidance counselors were asked to rate several factors as admissions criteria. Since high school guidance counselors are concerned with students entering a college or university, rather than a professional or graduate school, the questionnaire addressed itself to this level. They were asked to rate 7 factors (QPA, CEEB Scores, IQ, Extracurricular Activities, Motivation, Sex and Race) as to their importance "in recommending a student for application to a college or university." The counselors were also given the opportunity to list other factors and were asked to give reasons for their choice. The factor of Sex was rated as follows:

TABLE 5

In Recommending a Student for Application to a College or University, Please Rate the Following Factors as to Their Importance to You:

	Group A		Group B	
Sex	Number	Percent	Number	Percent
Very Important	0	00.00	0	00.00
Moderately Important	4	6.25	1	2.50
Minimally Important	5	7.81	4	10.00
Not Important	55	85.94	35	87.50
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

This response was compared to the factor of Race, which was rated as follows:

TABLE 6

In Recommending a Student for Application to a College or University Please Rate the Following Factors as to Their Importance to You:

	Group A		Group B	
Race	Number	Percent	Number	Percent
Very Important	3	4.69	0	00.00
Moderately Important	3	4.69	0	00.00
Minimally Important	6	9.38	6	15.00
Not Important	52	81.25	34	85.00
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

Neither factor was rated by the guidance counselors as being major. The factors of QPA and Motivation were rated highest in consideration by the guidance counselors as Tables 7 and 8 illustrate:

TABLE 7

In Recommending a Student for Application to a College or University, Please Rate the Following Factors as to Their Importance to You:

	Group A		Group B	
QPA	Number	Percent	Number	Percent
Very Important	58	90.63	29	72.50
Moderately Important	5	7.81	10	25.00
Minimally Important	1	1.56	0	00.00
Not Important	0	00.00	0	00.00
No Answer	0	00.00	1	2.50
Total	64	100.00	40	100.00

TABLE 8

In Recommending a Student for Application to a College or University, Please Rate the Following Factors as to Their Importance to You:

	Group A		Group B	
Motivation	Number	Percent	Number	Percent
Very Important	53	82.81	36	90.00
Moderately Important	9	14.06	4	10.00
Minimally Important	2	3.13	0	00.00
Not Important	0	00.00	0	00.00
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

The guidance counselors listed the following factors as being pertinent in recommending a student, but most did not rate the factors in the "Other" category:

TABLE 9

Other

	Group A	Group B
Factor	Number	Number
Family	15	1
Curriculum Chosen	11	2
Personal Choice	10	1
Financial	8	1
Goals	5	1
Other	12	6

When asked to give reasons for their choice the guidance counselors replied as follows:

TABLE 10

Please Give Reasons for Your Choice

Reason	Group A Number	Group B Number
Academic Development important over long period of time	42	21
Motivation can be the deciding factor	30	23
Objective measures most valid according to colleges	8	3
Varies according to school	8	0
Other	9	9

With regard to Group A, it was the opinion of the interviewer that motivation was considered to be the single most important factor to the guidance counselors. This analysis was not possible for Group B.

The guidance counselors were asked, "What characteristics of a woman do you feel are most important relative to success in the field of medicine?" The answers are given the the following table:

TABLE 11

What Characteristics of a Woman Do You Feel Are Most Important Relative To Success in the Field of Medicine?

	Group A Number	Group B Number
Intelligence/Academic Ability	43	14
Motivation	25	2
Emotional Maturity	21	11
Understanding	17	10
Perseverance/Patience	16	18
People Oriented	16	1
Same as a Man	11	7
Dedication	11	3
Aggressive	8	1
Good Health/Stamina	7	3
Independence	5	0
Sacrifice	5	0
Ethical/Moral	4	4
Sense of Humor	3	0
Feminine Characteristics	2	2
Other	8	10

As can be seen, the answers of most guidance counselors are no different than might be expected if the question were asked about men. Some of the guidance counselors did in fact note that the characteristics would be the same as for a man (Group A - 11, Group B - 7). A few stated that women would have to sacrifice more than men, be more dedicated or might not be able to have a family. However, these reservations were not noted in the vast majority of the cases.

In an attempt to determine if the attitudes of guidance counselors had changed, perhaps due to the activities of the women's movement, the guidance counselors were asked, "Are you aware of anything that has changed your attitude toward women entering the profession of medicine? If so, what?" The responses were as follows:

TABLE 12

Are You Aware of Anything that has Changed Your Attitude Toward Women Entering the Profession of Medicine?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	18	28.13	9	22.50
No	46	71.88	31	77.50
No Answer	0	00.00	0	00.00
Total	64	100.01	40	100.00

More than one way to interpret the above information exists. The guidance counselors possibly always believed women have a place in the profession of medicine, or they might be saying they still do not believe women have a place in medicine comparable to that of men. By the form of the question, either interpretation is possible. However, some of those who answered "No" did so with reasons possibly more suited to a "Yes" answer. Ten guidance counselors in Group A responding "No" mentioned such things as the impact of the woman's movement, barriers are down and more women are now going to college. In Group B, however, those who answered "No" and gave examples (6) said in all cases but one they had long felt women should be included in the profession of medicine.

For those guidance counselors whose feeling toward women in medicine had changed, it appears from the following table the publicity generated by the women's movement did have an effect upon their attitude change:

TABLE 13

If So, What?

	Group A Number	Group B Number
Women's Movement	5	2
More Aware	4	0
Awareness of Women in Professions	3	3
Publicity/Literature	3	0
Personal Experience	2	3
Other	2	2

Possibly guidance counselors accept the position of women in medicine, but think they are more suited to some areas of specialization than to others. To examine this proposition, the following question was asked, "Do you think women would be more successful in some fields of medicine such as pediatrics, rather than in other fields such as surgery? Why or why not?" The responses of the guidance counselors were as follows:

TABLE 14

Do You Think Women Would Be More Successful In Some Fields of Medicine Such as Pediatrics, Rather Than in Other Fields Such as Surgery?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes*	27	42.19	10	25.00
No**	37	57.81	29	72.50
Don't Know	0	00.00	1	2.50
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

The responses divided Group A almost evenly between those who thought women would be more successful in some areas of specialization and those who did not. Included in the responses of Group B are 1/4 who answered "Yes" and almost 3/4 who answered "No." As the following tables illustrate, those answering "No" stressed the importance of capability. Many of the counselors who replied "Yes" to the question cited tradition as their reason. Also doctor and patient would be more comfortable if women were in physician roles such as pediatrics where women have in the past been seen most often. When asking this question to the guidance counselors in Group A, the interviewer mentioned the specialties of both pediatrics and gynecology: thus, the 9 guidance counselors answering "Women like women doctors" were probably responding to women as gynecologists.

TABLE 15

Why Or Why Not? (Yes*)

Reason	Group A Number	Group B Number
Tradition/Women's Role	15	4
Women Like Women Doctors	9	1
Nature of Women	4	1
Other	6	3

TABLE 16

Why Or Why Not? (No**)

Reason	Group A Number	Group B Number
Capability Important and Not Sex	21	17
Individual Preference	6	6
It Doesn't Matter	4	0
Depends on Specialty	3	1
Sexual Stereotypes Not Valid	0	4
Other	2	0

To determine if guidance counselors considered some fields to be primarily a man's domain and other fields suited essentially for women, the following two questions were asked:

TABLE 17

Do You Think That Women Are More Suited To Some Fields and Less Suited to Other Fields?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes*	52	81.25	12	30.00
No**	11	17.19	28	70.00
No Answer	1	1.56	0	00.00
Total	64	100.00	40	100.00

TABLE 18

Do You Think That Men Are More Suited To Some Fields and Less Suited To Other Fields?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes*	44	68.75	12	30.00
No**	19	29.69	28	70.00
No Answer	1	1.56	0	00.00
Total	64	100.00	40	100.00

To determine if the discrepancy in answers between Groups A and B could be due to chance a chi square test was performed. This hypothesis was rejected at the .05 level for the question on fields for women and at the level of .05 for the question relating to men.

The guidance counselors were asked the reasons for their answers. Most of those answering "Yes" to both questions cited physical and/or emotional requirements of some fields. For example, many guidance counselors said some fields, such as steelworking and construction required strength beyond the capacity of women. Other counselors stated some areas requiring dexterity and in some cases patience such as assembly-line work, were more successfully occupied by women. The following tables show the reasons given by the guidance counselors:

TABLE 19

Do You Think that Women are More Suited to
Some Fields and Less Suited to Other Fields?
Why or Why Not (Yes*)

Reason	Group A Number	Group B Number
Physical and/or Emotional Requirements	48	7
Social Conditioning	10	1
Other	4	1

TABLE 20

Do You Think that Women are More Suited to Some Fields and Less Suited to Other Fields? Why or Why Not (No**)

Reason	Group A Number	Group B Number
Capability and not Sex Important	6	20
With Qualifications	4	6

TABLE 21

Do You Think that Men are More Suited to Some Fields and Less Suited to Other Fields? Why or Why Not (Yes*)

Reason	Group A Number	Group B Number
Physical and/or Emotional Requirements	39	6
Societal Conditioning/ Tradition	6	1
Depends on Individual	4	1
Other	2	3

TABLE 22

Do You Think that Men are More Suited to Some Fields and Less Suited to Other Fields? Why or Why Not (No**)

Reason	Group A Number	Group B Number
Traditional Stereotypes Not Valid	5	0
Qualifications and Characteristics Determine	3	15
Men and Women Equal	1	6
Other	6	5

An examination of the fields considered most and least suitable for men and women reveals the guidance counselors often saw women in those fields traditionally considered to be "women's fields" such as secretarial. Men are seen in traditionally "masculine" fields; those requiring physical strength, military/law enforcement, and fields requiring managerial ability and leadership.

TABLE 23

If Your Answer Was Yes, Which Fields Would You Consider Most Suitable For Women?

Field	Group A Number	Group B Number
Education	13	3
Fields Requiring Less Physical Strength	13	2
Secretarial/Clerical	12	2
Health (Not Physician)	8	4
Health (Physician)	7	6
Professions	7	4
Business	4	1
Dexterity Fields, For Example Assembly Line	4	1
Service (Waitress, Sales, Etc.)	4	0
Social Service	4	0
None	3	0
Other	6	4

TABLE 24

If Your Answer Was Yes, Which Fields Would You Consider Least Suitable For Women?

Field	Group A Number	Group B Number
Fields Requiring Heavy Physical Labor	31	7
Steel/Construction	19	2
Engineering	9	0
Crafts	8	0
Other	21	3

TABLE 25

If Your Answer Was Yes, Which Fields Would You Consider Most Suitable For Men?

Field	Group A Number	Group B Number
Those Requiring Physical Strength or Stamina	24	3
Professions (Including Engineering)	8	3
Construction/Steel	8	0
Medical Fields	7	4
Military/Law Enforcement	5	0
No Limit	5	0
Managerial/Leadership	4	2
Crafts	3	1
Other	9	5

TABLE 26

If Your Answer Was Yes, Which Fields Would You Consider Least Suitable For Men?

Field	Group A Number	Group B Number
Secretarial/Clerical	13	2
Domestic Activities	7	0
Sales/Service	7	0
Manual Manipulation (Assembly Line/Patience)	6	1
Nursing	6	0
No Limit	4	0
Education	3	0
Other	2	4

In a number of cases the fields considered most suitable for men and women are the same, for example, medical fields and the professions, but those considered least suitable are mutually exclusive. One should note that women are more often excluded from fields than are men; it was the opinion of some guidance counselors that men could perform in any field while women were excluded from some areas.

The guidance counselors were asked, "Do you make an effort to encourage members of minority groups such as blacks to enter medicine? Members of low socio-economic status? Women? Why or why not?"

TABLE 27

Do You Make an Effort to Encourage Members of Minority Groups Such as Blacks to Enter Medicine?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	21	32.81	22	55.00
No	9	14.06	6	15.00
Not Applicable *	34	53.13	0	00.00
No Answer	0	00.00	12	30.00
Total	64	100.00	40	100.00

* This option was given by the interviewer to the guidance counselors in Group A, but did not appear in the questionnaires sent to Group B.

TABLE 28

Do You Make an Effort to Encourage Those of Low Socio-Economic Status to Enter Medicine?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	55	85.94	32	80.00
No	9	14.06	8	20.00
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

TABLE 29

Do You Make an Effort to Encourage Women to Enter Medicine?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	56	87.50	35	87.50
No	8	12.50	5	12.50
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

Since so many of the guidance counselors did not counsel black students, it was difficult to evaluate answers pertaining to them. However, the proportion of guidance counselors responding "Yes" in the case of both women and those of low socio-economic status was predictably high as the question was clear in nature and occurred late enough in the questionnaire for one intent of the study to be perceived by most of the guidance counselors. When asked for their reasons, most of the guidance counselors replying "Yes" stated that they would encourage women, those of low socio-economic status and blacks if the students showed an interest in the field of medicine and had the necessary ability. The following tables represent the reasons given by those guidance counselors answering "Yes" to the question.

TABLE 30

Do You Make an Effort to Encourage Members of Minority Groups Such as Blacks to Enter Medicine?

Yes	Group A Number	Group B Number
If Interest and Ability are There	12	20
Individual Choice	6	0
Are Needed in Medicine	3	0
Other	3	4

TABLE 31

Do You Make an Effort to Encourage Those of Low Socio-Economic Status to Enter Medicine?

Yes	Group A Number	Group B Number
If Interest and Ability are There	35	23
Financial Considerations (Aid)	12	2
Individual Choice	8	0
Are Needed in Medicine	3	0
Other	6	6

TABLE 32

Do You Make an Effort to Encourage Women to Enter Medicine?

Yes	Group A Number	Group B Number
If Interest and Ability are There	36	23
Individual Choice	8	0
Women Belong in Medicine	6	5
Might Need Encouragement	3	1
Other	8	4

Few guidance counselors appeared to discriminate against blacks, women and those of low socio-economic status wishing to enter the field of medicine. The reasons for most of the guidance counselors replying "No" were similar to those answering "Yes" as the following tables demonstrate:

TABLE 33

Do You Make an Effort to Encourage Members of Minority Groups Such as Blacks to Enter Medicine?

No	Group A Number	Group B Number
Interest and Ability Must be There	3	3
Other	4	1

TABLE 34

Do You Make an Effort to Encourage Those of Low Socio-Economic Status to Enter Medicine?

No	Group A Number	Group B Number
Not Unless Interest and Ability are There	3	3
Up to Individual	3	3
Other	2	0

TABLE 35

Do You Make an Effort to Encourage Women to Enter Medicine?

No	Group A Number	Group B Number
Interest and Ability Must be There	3	3
Up to Individual	3	0
Other	2	1

In order to verify the importance placed by the guidance counselors on academic ability, they were asked, "Do you think a student of average academic ability can succeed in medical school?" and they responded as follows:

TABLE 36

Do You Think a Student of Average Academic Ability Can Succeed In Medical School?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes*	32	50.00	18	45.00
No**	30	46.88	21	52.50
Don't Know	2	3.13	1	2.50
No Answer	0	00.00	0	00.00
Total	64	100.01	40	100.00

Although the guidance counselors were divided almost evenly on this question, many of those answering "Yes" stressed the importance of motivation. They were of the firm opinion that a student of average academic ability must be highly motivated and even then was not at all assured of success. In many cases those responding "Yes" qualified their answers almost as strongly as those replying "No." Their answers were as follows:

TABLE 37

Why Or Why Not? (Yes*)

Reason	Group A Number	Group B Number
If Motivated	24	14
With Strong Reservations	4	4
Realize Demands	3	0
Other	5	0

TABLE 38

Why Or Why Not? (No**)

Reason	Group A Number	Group B Number
Too Demanding	22	16
Difficulty of Success/ Acceptance	5	6
Other	3	2

It was the opinion of the interviewer that many of the guidance counselors in Group A were reluctant to answer "No" to the above question, but realized the academic difficulties a student of average ability would encounter and thus heavily qualified their "Yes" responses.

Following up on this question, they were asked, "Have you actively discouraged students from entering the profession of medicine as a career?"

TABLE 39

Have You Actively Discouraged Students From Entering the Profession of Medicine as a Career?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	9	14.06	12	30.00
No	55	85.94	28	70.00
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

None of the guidance counselors indicated that the sex of a student was related to their decision. One consideration to note is the use of the word "actively" in the question. Many guidance counselors do not see their role as one of actively suggesting careers for high school students, but rather as a facilitator who explains options and assists the student in determining his or her own choice. The responses of the guidance counselors tend to confirm statements in the literature which say that they are primarily concerned in helping the student to enter college or trade school, or to begin an appropriate job; they think a decision to enter a professional school is often made later in the student's academic career. However, almost 1/2 of the women medical students interviewed at the University of Pittsburgh had made a decision to enter medical school either before or during high school.

While not generally appearing to actively discourage women from becoming physicians there are instances where they have in fact actively discouraged potential women medical students. This conclusion was reached by examining the answers of the women medical students to certain questions asked them.

Forty percent of the women medical students received career counseling from the guidance counselor in high school as the following question reveals:

TABLE 40

Did You Ever Get Direct Counseling Information From A High School Guidance Counselor About Your Choice of Career?

	Number	Percent
Yes	16	40.00
No	24	60.00
Total	40	100.00

However, little of this information was related specifically to medicine as the following table reveals:

TABLE 41

What Kind of Information?

Information	Number	Percent
Choice of College	7	43.75
Career Information	5	31.25
Negative Regarding Medicine	2	6.25
Courses Necessary for Pre-Medicine	1	12.50
General	1	6.25
Total	16	100.00

Only 2 of the students stated they were discouraged by the guidance counselor from entering medicine. In both cases the young women were advised to enter nursing. Both felt they had been discouraged because they were women and an equally qualified young man would have been encouraged to enter the profession of medicine.

The women were also asked, "Based on your experience do you think a guidance counselor would tend to be more cautious about a young woman applying for medical school than a young man?" and responded as follows:

TABLE 42

Based On Your Experience Do You Think a Guidance Counselor Would Tend To Be More Cautious About a Young Woman Applying For Medical School Than a Young Man Applying For Medical School?

	Number	Percent
Yes	22	55.00
No	9	22.50
Varies	4	10.00
Don't Know	5	12.50
Total	40	100.00

When asked to explain their answers the women medical students responded in the following manner:

TABLE 43

Why Or Why Not?

Why	Number	Percent
Traditional Views/Biases	14	63.64
Family/Career Conflict	3	13.64
Necessity to be Exceptional Student	1	4.55
Emphasis on College	1	4.55
Women Need an Exceptional Commitment	1	4.55
Counselor Not Qualified to Counsel Women	1	4.55
Personal Experience	1	4.55
Total	22	100.03

TABLE 44

Why Or Why Not?

Why Not	Number	Percent
Ability Important	3	33.33
Personal Experience	3	33.33
Changes in Thinking	1	11.11
Qualifications of Woman Student Important	1	11.11
Individual Treatment	1	11.11
Total	9	99.99

A majority of the women answering "Yes" thought the guidance counselor would reflect traditional views and biases (63.64%); however, some of the students indicated the caution expressed by the guidance counselor would be wise, citing such things as ability of the student and personal contact with the guidance counselors.

Almost 1/2 of the women medical students thought they had been actively discouraged from entering medicine as the following table shows:

TABLE 45

Did Anyone Actively Discourage You From Pursuing Medicine As a Career?

	Number	Percent
Yes	19	47.50
No	20	50.00
Maybe	1	2.50
Total	40	100.00

However, only one of these students listed the high school guidance counselor as an active source of deterrence. The other student who had been discouraged by her high school guidance counselor saw it as "passive."

Summary

The data from the paired-comparisons task does not seem to justify a position that sex is of major consideration in the perception of high school guidance counselors when considering the potential success in medical school of otherwise well qualified students.

Although some of the guidance counselors exhibited reservations toward women entering the profession of medicine their general attitude cannot be considered discriminatory. The vast majority of them (Group A - 96.88%, Group B - 82.50%) thought women could pursue a medical career as successfully as a man. Even if some expressed reservations (Group A - 13, Group B - 6) the majority of them did not indicate undue caution regarding women in medicine. In addition, the guidance counselors rated sex as relatively unimportant in recommending a student for a college and university.

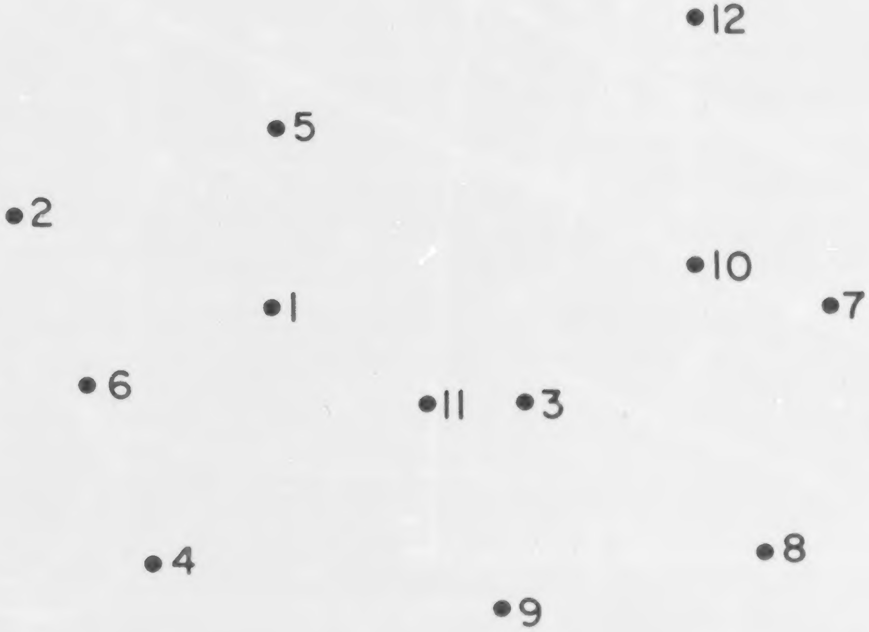
The majority of guidance counselors, when asked to list characteristics of a woman most important to success in the field of medicine, generally mentioned characteristics similar to those which would be expected were the question asked regarding a man.

A sizable minority in both groups (Group A - 42.19%, Group B - 25.00%) thought women would be more successful in some fields of medicine, than in others, which indicates a certain restriction for women in terms of their position in medicine.

The guidance counselors also considered different occupational fields more suitable for women and others for men. This question revealed a significant difference in the responses of the guidance counselors. This discrepancy in answers between Groups A and B might possibly be due to the leading of the interviewer.

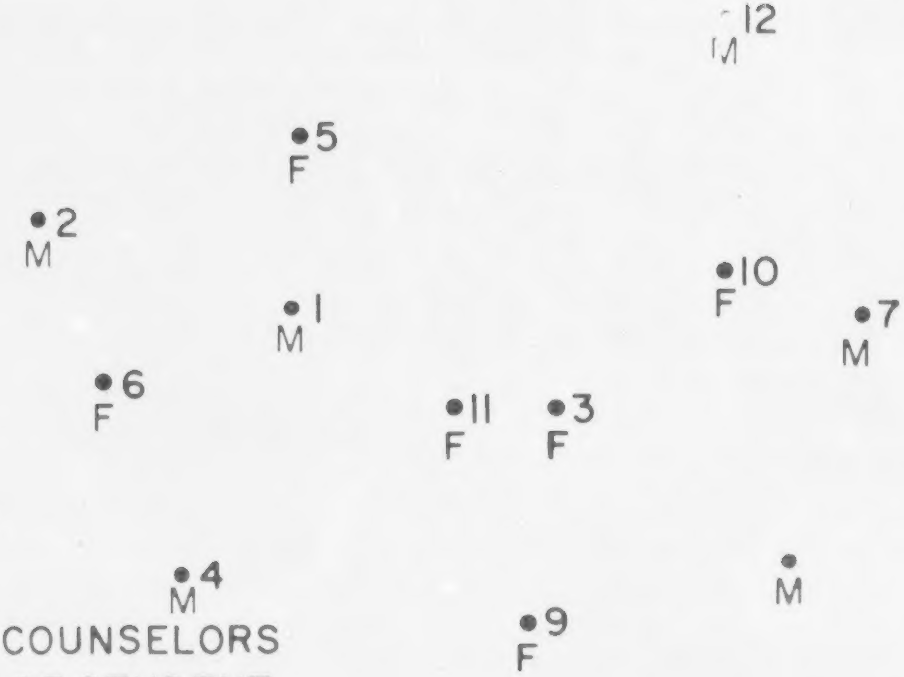
In contrast most of the guidance counselors (Group A - 87.50%, Group B - 90.00%) said they made an effort to encourage women to enter medicine. Also, none of them mentioned sex when asked if they had actively deterred students from entering medicine. Although 2 of the women medical students had been discouraged by high school guidance counselors and some thought a guidance counselor might be more cautious in recommending medicine as a career for a woman, the majority of the women were not discouraged by their high school guidance counselor or had little experience of bias from the counselor.

FIG. 3.



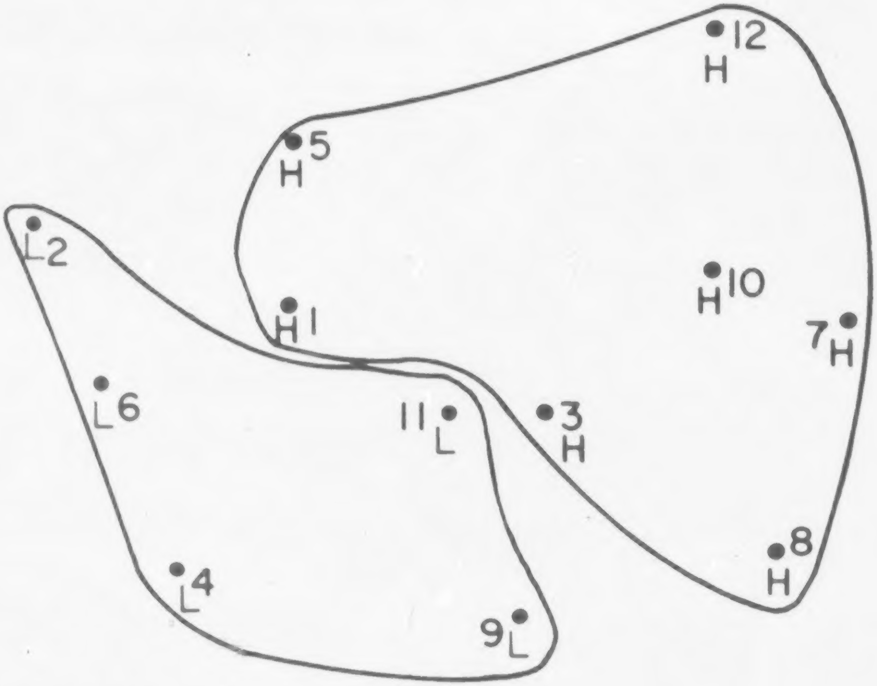
SUBJECTS: ALL COUNSELORS
KRUSKAL'S STRESS = 0.22286

FIG. 4.



SUBJECTS: ALL COUNSELORS
VARIABLE: SEX OF STUDENT
FEMALE - F
MALE - M
KRUSKAL'S STRESS=0.22286

FIG. 5.



SUBJECTS: ALL COUNSELORS
VARIABLE: STUDENT RANK IN CLASS
HIGH - H
LOW - L
KRUSKAL'S STRESS=0.22286

Research Question 2

What is the extent of the knowledge of Guidance Counselors in Western Pennsylvania high schools of problems which face women in the admissions procedure to medical school and the current attitudes of admissions committees toward acceptance of women to medical school?

The following questions from Questionnaire III were utilized to answer this question:

1. What do you consider to be the factors taken into consideration by admissions committees of medical schools in the admission of women into medical school? a. academic, b. personal, c. social, d. other
2. Do you think medical schools have taken steps which are more accommodating toward women in terms of their programs, attitude of faculty, attitude of students, etc.? If so, please give examples.
3. Is it your opinion that some medical schools, either officially or unofficially, currently have quotas for minority group enrollment, including women?
4. Do you think medical education has changed significantly in the last ten years in terms of acceptance of women, acceptance of other minority groups, etc.? If so, in what way(s)?

In addition, the following questions from Questionnaire I (Women Medical Students) were analyzed:

1. Did you think you had to be more qualified than a man in order to be accepted into medical school?

2. Specifically, were you discouraged by the admissions committee?
3. If so, for what reason(s)?
4. Do you think you were discouraged because you are a woman? Why or why not?
5. Did anyone actively discourage you from pursuing medicine as a career? Who?
6. When did you decide to enter the field of medicine?

The guidance counselors were asked what they thought were the "factors taken into consideration by admissions committees of medical schools in the admission of women into medical school?" These factors were subdivided into the categories academic, personal, social and other.

TABLE 46

What Do You Consider to be the Factors Taken Into Consideration by Admissions Committees of Medical Schools in the Admission of Women Into Medical School?

	Group A	Group B
Academic	Number	Number
Math and/or Science	35	13
Performance	25	26
Same as Man	20	4
Test Scores	13	5
Intelligence/Ability	11	2
Course Content	6	5
Different from Man	6	2
Miscellaneous Courses	4	2
Other	7	1

TABLE 47

What Do You Consider to be the Factors Taken Into Consideration by Admissions Committees of Medical Schools in the Admission of Women Into Medical School

Personal	Group A Number	Group B Number
Emotional Maturity	30	15
Motivation	18	4
Physical Characteristics/Stamina	13	4
People Oriented	9	5
Dedication	9	1
Perseverance	8	2
Understanding	8	2
Ethical/Moral	5	4
Same as Man	5	2
Aggressive	5	0
Ability to Communicate	4	0
Marriage/Family	1	4
Different from Man	0	1
Other	24	10

TABLE 48

What Do You Consider to be the Factors Taken Into Consideration by Admissions Committees of Medical Schools in the Admission of Women Into Medical School?

Social	Group A Number	Group B Number
Organizational Activities Other Than Medical	27	8
People Oriented	17	16
Medical Activity/Volunteer	15	0
Personal Characteristics	9	5
Well-Rounded	7	1
Leadership Activity	4	0
Same as Man	3	3
Other	5	4

The guidance counselors' perceptions of the factors taken into consideration by admissions committees do not seem to be necessarily sex-related. In the academic category, while the guidance counselors thought some characteristics to be the same as those considered for a male applicant (Group A - 20, Group B - 4) far fewer thought those for a woman would be different than those for a man (Group A - 6, Group B - 2). General performance (Group A - 25, Group B - 26) with an emphasis on math and science (Group A - 35, Group B - 13) were the most important considerations.

The personal characteristics considered important by the guidance counselors covered a wide range. Only a few (Group A - 5, Group B - 2) guidance counselors felt these characteristics were the same as those for a man. However, as the guidance counselors were not specifically asked if the personal characteristics for men and women were the same, their failure to respond in that manner cannot be considered significant.

The broad area of emotional maturity (Group A - 30, Group B - 15) containing a variety of responses such as emotionally well-balanced, stable, lack of strong emotional conflicts, etc. was considered by the guidance counselors to be the factor most important to the admissions committee. Secondly was motivation, followed by physical characteristics and stamina. Many of the answers were too diverse to be included in a specific category (as would be expected in an open-ended question such as this) and an attempt to define some characteristics listed as masculine and others as feminine would be too subjective for the purposes of this study. With regard to social characteristics, again, the answers of the majority of the counselors did not appear to suggest that social factors would be different for a woman than a man. Since the guidance counselors were not asked to list factors taken into consideration in the admission of men into medical school, it is not possible to precisely determine whether those considered for women and for men are the same or different.

The guidance counselors were asked if they thought medical schools had "taken steps which are more accommodating toward women in terms of their programs, attitude of faculty, attitude of students, etc.?" The results were as follows:

TABLE 49

Do You Think Medical Schools Have Taken Steps Which Are More Accommodating Toward Women in Terms of Their Programs, Attitude of Faculty, Attitude of Students, Etc?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	43	67.19	16	40.00
No	4	6.25	9	22.50
Don't Know	17	26.56	15	37.50
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

This question intended to assess the knowledge of guidance counselors of women's status in medical school, once they were admitted; however, because the examples given by those who answered "yes" more often referred to admissions procedures, it is probable that this misinterpretation can be considered an indication of a real lack of knowledge of the internal state of the medical school in regard to women. This was particularly evident in the case of those people who were interviewed. While few examples were the result of personal experience, many were based on information from various media, as Table 50 shows.

TABLE 50

If So, Please Give Examples

	Group A Number	Group B Number
Unsupported Statements	18	10
Based on Literature/Media	15	2
Specific Medical School Content	5	1
No Examples Listed	4	4
No Personal Experience	4	0
Personal Experience	4	0
Don't Know	3	0

The continued emphasis on minority group enrollment in medical schools generated a question regarding the perceptions of the guidance counselors on the use of quotas by medical schools. They were asked if they thought some medical schools "either officially or unofficially currently have quotas for minority group enrollment, including women?" Their responses were as follows:

TABLE 51

Is It Your Opinion That Some Medical Schools, Either Officially Or Unofficially, Currently Have Quotas For Minority Group Enrollment, Including Women?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	47	73.44	36	90.00
No	6	9.38	2	5.00
Don't Know	11	17.19	2	5.00
No Answer	0	00.00	0	00.00
Total	64	100.01	40	100.00

The vast majority of the guidance counselors did think a quota system was in operation; however, a minority in Group A did not know if a quota system was used. Of the guidance counselors who were interviewed in Group A, most thought that a quota system, if one existed, worked to the advantage of women and minority groups. The answers of the guidance counselors who responded "yes" by mail (Group B - 90.00%) also seemed to indicate a belief in a quota system that worked to the advantage of women and minority groups. There is no way of testing this because even if some medical schools do use a quota system, they do not admit to it. However, the applications and acceptance data would tend to indicate that such does not exist or at least is of negligible importance.

A review of the relevant literature reveals that the percentage of women entering medical school has grown steadily as the following table indicates (Medical Education in the United States, 1972 - 73):

TABLE 52

Women Entering Medical School

Academic Year	Applicants		Entering	
	Number	Percent	Number	Percent
1939 - 40	632	5.4	296	5.0
1959 - 60	1,026	6.9	494	6.0
1969 - 70	2,289	9.4	952	9.2
1972 - 73	6,000	16.6	2,315	16.9

This information is supported with a study conducted by Dube, which compared admissions statistics for several years. The following comparison was taken from his study (Dube 1973).

TABLE 53

Women as Applicants and Entering Students

	1961 - 62	1972 - 73
Total Applicants	14,381	37,000
Women	1,166	5,920
Percent of Total	8.1	16.0
Entering Students	8,483	13,570
Women	674	2,284
Percent of Total	8.0	16.8

Of further interest is that women applicants were accepted at a somewhat higher percentage than men applicants, as the following table, also from the study by Dube shows (Dube 1973).

TABLE 54

Men and Women Applicants

	1961 - 62		1971 - 72	
	Women	Men	Women	Men
Number Applying	1,166	13,215	3,737	25,435
Number Accepted	736	7,946	1,685	10,650
Percent Accepted	63.2	60.1	45.1	41.9

With or without the use of a quota system, the guidance counselors thought medical education had "changed significantly in the last ten years in terms of acceptance of women, acceptance of other minority groups, etc." as Table 55 shows:

TABLE 55

Do You Think Medical Education Has Changed Significantly In the Last Ten Years in Terms of Acceptance of Women, Acceptance of Other Minority Groups, Etc.?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	57	89.06	30	75.00
No	5	7.81	9	22.50
Don't Know	2	3.12	1	2.50
No Answer	0	00.00	0	00.00
Total	64	99.99	40	100.00

When asked to explain in what ways they thought these changes were occurring, however, the guidance counselors again did not have much specific information. Many simply replied that medical schools are accepting larger numbers of minority groups, including women. Several cited pressures from the women's movement and society as a reason for larger acceptance. Nine of those interviewed said that their answer was just an assumption. The use of the word "significant" in the question caused some guidance counselors to state that changes had been made, but they doubted the changes could be called significant. Table 56 gives the entire breakdown.

TABLE 56

If So, In What Way(s)?

	Group A Number	Group B Number
Accepting Larger Numbers Including Minorities	45	16
Just an Assumption	9	0
Pressures from Women's Movement and Society	6	5
Other Changes	4	3
Don't Know	1	0
Trend of the Times	0	4
Other	7	4

Compared with the perceptions of the women medical students, those of the guidance counselors were often at variance regarding admissions. As discussed above, the counselors thought medical schools were accepting larger numbers of women (and members of minority groups) and a substantial number of guidance counselors thought medical schools were more accommodating to women.

However, a majority of the women medical students at the University of Pittsburgh Medical School thought they had to be more qualified than a man to be accepted into medical school as the following table shows.

TABLE 57

Did You Think You Had To Be More Qualified Than a Man In Order To Be Accepted Into Medical School?

	Number	Percent
Yes	26	65.00
No	12	30.00
Uncertain	2	5.00
Total	40	100.00

In addition, a sizable minority of the women felt they had been discouraged by an admissions committee as indicated in Table 58.

TABLE 58

Specifically, Were You Discouraged By the Admissions Committee?

	Number	Percent
Yes	12	30.00
No	27	67.50
Maybe	1	2.50
Total	40	100.00

When asked why they thought they had been discouraged, those who answered "Yes" or "Maybe" replied as follows.

TABLE 59

If So, For What Reason(s)?

Reason	Number
Problem of Woman and Career	8
Suggested Another Field	2
Low Grades	1
Hard Interview	1
Considered "Unreliable"	1

More women reported members of an admissions committee had stressed the problems of a woman combining the career of medicine with traditionally accepted activities for women such as being a wife and mother than all other reasons combined. Some of them felt they had been asked to defend their reasons for wanting to become physicians to people who were opposed to the idea. Most medical students apply to and are often interviewed by more than one medical school. Therefore, those women who answered "yes" were, in most cases talking of one interview among several and they did not imply that in all of their encounters with members of admissions committees, they had been discouraged from entering medicine.

The women were also asked, "Do you think you were discouraged because you are a woman?" Their answers were as follows.

TABLE 60

Do You Think You Were Discouraged Because You Are A Woman?

	Number	Percent
Yes	10	25.00
No	27	67.50
Maybe	1	2.50
Don't Know	1	2.50
To Some Extent	1	2.50
Total	40	100.00

Those who answered "Yes," "To Some Extent," and "Maybe" discussed specific incidents of interviewers who either stressed the problems of a woman combining roles and career, who did not take their plans seriously, or who suggested alternate fields. Again, the women often reported that the interview which indicated bias was only one among several and the other interviewers did not necessarily make statements of a negative nature regarding women in medicine.

Prior to being asked about the attitude of admissions committees the women were asked, "Did anyone actively discourage you from pursuing medicine as a career?" and responded in the following manner.

TABLE 61

Did Anyone Actively Discourage You From Pursuing Medicine As a Career?

	Number	Percent
Yes	19	47.50
No	20	50.00
Maybe	1	2.50
Total	40	100.00

None of those women who answered "Yes" or "Maybe" listed the admissions committee or an individual interviewer as among those who had actively discouraged them from entering medicine. The women named the following groups of people as being those who did.

TABLE 62

Who?

Person(s)	Number
College/Premedical Adviser	6
Parents	6
Male Doctors	4
Female Doctors	3
Relatives	4
Professionals	3
Guidance Counselor	1
Nurses	1
Miscellaneous	5

One possible interpretation of their failure to list interviewers or members of admissions committees among those actively discouraging them from entering the profession of medicine is that they were already firmly convinced of the rightness of their choice and did not perceive any discouragement they received as active.

Nineteen of the women (47.50%) had made the decision to become physicians by their senior year in high school. Also, all of the women who had made their decision in college did so before their senior year, when they were interviewed for medical school. The following table gives the results.

TABLE 63

When Did You Decide to Enter the Field of Medicine?

	Number	Percent
Before High School	10	25.00
High School	9	22.50
College	19	47.50
Other	2	5.00
After Accepted at Medical School - 1		
Jr. Year Diploma School of Nursing - 1		
Total	40	100.00

Summary

High school guidance counselors overwhelmingly believe a quota system is in effect which works to the advantage of women and members of minority groups in their admission to medical school; however, data discussed earlier would strongly suggest the contrary. A significant number of counselors (Group A - 20, Group B - 4) also stated that academic factors taken into consideration by admissions committees would be the same for a woman as for a man. Although this would be inconsistent with the concept of a quota system, this inconsistency seemed not to have occurred to the counselors. In addition, the guidance counselors do not show much detailed knowledge of the admissions procedure, nor do they indicate a knowledge of the problems faced by women in the admissions procedure. Since the guidance counselors were not specifically asked to list *problems* encountered by women applying to medical school, it cannot be stated they know little of those problems; however, from their answers to the questions overall, it seems to be a safe inference.

Research Question 3

What is the extent of the knowledge of guidance counselors in Western Pennsylvania high schools of the problems which face women medical students during their years as a medical student?

In order to answer this research question the following questions were asked the guidance counselors:

1. What would you consider to be the most serious problems encountered by women medical students?
2. Please rate the following problems as to their importance to a woman medical student: Marriage, Pregnancy, Interaction with male medical students, Financial, Faculty bias, Lack of time, Limited social life, Problems with male patients, Miscellaneous personal problems, Academic, Other(s) Please list
    1. Very Important
    2. Moderately Important
    3. Minimally Important
    4. Not Important
3. What would you consider to be the most serious problems encountered by medical students? Do you think women face some problems of a different nature than those faced by men? If so, what are the differences?

In addition, the women medical students were asked the following questions:

1. What problems do you as a medical student face (academic, personal, financial, social, marriage or marriage plans, pregnancy)? Are there any others?
2. What is your major problem? Why?
3. Do you think the fact that you are a woman makes medical school more difficult for you than for the male students? Why or why not?
4. How would you describe your relationships with the men students?
5. How would you describe your relationships with the women students?
6. How would you describe your relationships with the faculty?
7. How do you feel the fact that you are a woman affects your relationships with the faculty?
8. Do you consider marriage and pregnancy to be more of a problem for you than for a male medical student? Why or why not?

The question of the problems of marriage and pregnancy for a woman medical student was asked of both the guidance counselors and the women medical students. The results are as follows: When the women medical students were asked, "What problems do you as a medical student face (academic, personal, financial, social, marriage or marriage plans, pregnancy)?," their response can be seen in Table 64.

TABLE 64

What Problems Do You as a Medical Student Face (Academic, Personal, Financial, Social, Marriage or Marriage Plans, Pregnancy)?

Problem	Number
Personal	21
Social	21
Financial	17
Academic	11
Marriage, Marriage Plans, Pregnancy	13
Other	8

As can be seen, 13 out of the 40 women interviewed saw marriage or marriage plans and/or pregnancy as being a problem. Eighty percent of the women also saw marriage and pregnancy as being more of a problem for them than for a male medical student: "Do you consider marriage and pregnancy to be more of a problem for you than for a male medical student?

TABLE 65

Do You Consider Marriage and Pregnancy To Be More Of a Problem For You Than For a Male Medical Student?

	Number	Percent
Yes	32	80.00
No	2	5.00
Pregnancy, not Marriage	3	7.50
Maybe	3	7.50
Total	40	100.00

The most frequent reason given for seeing marriage and pregnancy as being more of a problem for women medical students than for male medical students can be seen in Table 66.

TABLE 66

Why Or Why Not?

Reason	Number
Woman's Responsibilities of Home and Family	33
Woman Doctor Not Necessarily a "Good Catch"	2
Financial	2
Pull of Interests	1
Different Expectations	1
Wouldn't Marry Someone Would Have Problem With	1

However, marriage and pregnancy were not seen as being a major problem by any of the women interviewed.

When the women medical students were asked whether medical school was more difficult for a woman than for a man, their responses were as follows:

TABLE 67

Do You Think That The Fact You Are a Woman Makes Medical School More Difficult For You Than For The Male Students?

	Number	Percent
Yes	11	27.50
No	20	50.00
Maybe	9	22.50
Total	40	100.00

As can be seen, some of the women did indeed perceive medical school as being more difficult, however, when asked why, only a few women listed marriage and pregnancy as being a reason.

When the guidance counselors were asked whether they felt that women face problems of a different nature than those faced by men, more than half of the guidance counselors of both Group A and Group B answered yes as is indicated below in Table 68.

TABLE 68

Do You Think Women Face Some Problems of a Different Nature Than Those Faced By Men?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	41	64.06	22	55.00
No	23	35.94	17	42.50
No Answer	0	00.00	1	2.50
Total	64	100.00	40	100.00

In listing these differences 17 counselors mentioned marriage and 16 gave pregnancy as reasons. Twelve of these 33 respondents listed both marriage and pregnancy. Although a difference in wording of the two questions makes drawing conclusions from comparison difficult, it must be kept in mind that the medical students and counselors have very different positions from which to view possible problems to be encountered in medical school. The new student, whose major problem until recently, was to get into school, perhaps perceives her new problems as slight in comparison and thus tends not to react as strongly to this type of question as someone from the outside projecting their expectation of potential problems into a somewhat unknown situation.

When the guidance counselors were asked to rate various problems as to their importance to a woman medical student on a 1 - 4 scale (1=Very Important, 2=Moderately Important, 3=Minimally Important, 4=Not Important) 15 counselors saw marriage and pregnancy as being very important. While 12 counselors in Group A (18.75%) and 11 in Group B (27.50%) saw pregnancy alone as being very important only 2 in Group A (3.13%) and 2 in Group B (5.00%) saw marriage alone as very important. When all responses are combined, 42.19 percent of the counselors in Group A and 50.00 percent in Group B saw pregnancy as very important and 26.56 percent in Group A and 27.50 percent in Group B saw marriage as very important.

This seems to indicate, when comparing the responses of guidance counselors with the women medical students, that the problems of marriage and pregnancy are perceived as being more important to a woman medical student by the guidance counselors than by the women medical students themselves. One possible explanation for this inconsistency might be that the guidance counselors see the problems of marriage and pregnancy outside of the context of medical school, even though the question states, ". . . problems as to their importance to a woman medical student." It must also be noted here, however, that the interviewer attempted to guide the counselors in Group A into seeing these problems in a medical school context.

Another interesting point is that the guidance counselors see pregnancy as being more of a problem than marriage, whereas out of the 13 women medical students who saw both marriage and pregnancy as a problem, 12 perceived marriage more than pregnancy. This could also be a function of differing interpretations of the question as was mentioned previously, i.e., women medical students interpreted the question as a medical student, whereas the guidance counselors may have seen the problems as only being such once the woman begins to establish herself as a doctor.

The problem of male acceptance of and bias towards women medical students is an important question when dealing with the knowledge that guidance counselors have of the problems women face in medical school. Of the problems facing women medical students 40 counselors from Group A and 22 from Group B saw male acceptance/bias as the most serious, far outnumbering any other response given. Also, when asked to rank various problems women medical students face on a 1 - 4 scale, 20.31 percent in Group A and 45.00 percent in Group B saw faculty bias as a very important problem. Thirty-six percent of Group A and 35.00 percent of Group B viewed it as being moderately important while 37.50 percent of Group A and 12.50 percent of Group B saw it as minimal and 6.25 percent of Group A and 7.50 percent of Group B saw it as not important to a woman medical student.

Eighteen counselors in Group A (28.13%) and 14 in Group B (35.00%) saw interaction with male medical students as a very important problem to women medical students. Twenty-three from Group A (35.94%) and 11 from Group B (27.50% saw its importance to be moderate while 21.88 percent of Group A and 22.50 percent of Group B saw it as minimal. Nine counselors from Group A (14.06%) and 6 from Group B (15.00%) saw interaction with male medical students as not important to a woman medical student.

"Problems with male patients" was rated by the counselors in the following way: 9.38 percent from Group A and 15.00 percent from Group B saw it as very important to a woman medical student; 34.38 percent from A and 27.50 percent from B saw it as moderate; 32.81 percent from Group A and 42.50 percent from B saw its importance as minimal and 23.44 percent from A and 15.00 percent from B saw it as not important.

These three male-related problems were used because the women medical students, when interviewed, mentioned these as sources of bias. However, the counselors perceive these areas to be more serious than the students. The following results of the medical student interview show this to be true. Of the women medical students asked to describe their relations with the faculty, 60 percent replied good, very good or excellent. The distribution looks as follows for the rest of their responses:

TABLE 69

How Would You Describe Your Relationships With the Faculty?

Relationship	Number	Percent
Good	17	42.50
Mixed	6	15.00
Very Good	4	10.00
Fair	4	10.00
Excellent	3	7.50
Distant	3	7.50
Don't Know	2	5.00
Neutral	1	2.50
Total	40	100.00

Following this question, they were asked what effect, their being a woman, had on their relations with the faculty. Table 70 indicates their responses:

TABLE 70

How Do You Feel That the Fact You Are A Woman Affects Your Relationship With the Faculty?

Effect	Number	Percent
Doesn't Matter	16	40.00
Variable	5	12.50
Bias	5	12.50
Minimal/Some Effect	5	12.50
Treat Differently	4	10.00
See As Woman First	3	7.50
Don't Know	2	5.00
Total	40	100.00

The women medical students were then asked to describe their relations with the male medical students. Their responses are seen in Table 71.

TABLE 71

How Would You Describe Your Relationships With the Men Students?

Relationship	Number	Percent
Good	15	37.50
Varies	11	27.50
Very Good	7	17.50
Superficial	4	10.00
Negative	2	5.00
Excellent	1	2.50
Total	40	100.00

Comparing this with their responses when asked to describe their relations with the women medical students shows no appreciable difference:

TABLE 72

How Would You Describe Your Relationships With the Women Students?

Relationship	Number	Percent
Good	17	42.50
Varies	11	27.50
Very Good	7	17.50
Excellent	2	5.00
Neutral	2	5.00
Negative	1	2.50
Total	40	100.00

This attitude is also reflected in their responses to the question, "Do you think the fact you are a woman makes medical school more difficult for you than for the male students?" Eleven women (27.50%) stated yes, it was more difficult while 20 (50.00%) said no, it was not. Nine women (22.50%) replied maybe. The reasons given for their answers are summarized in Table 73.

TABLE 73

Why Or Why Not?

Reason	Number
Same Problems and Demands For Both	13
Social/Personal Problems	12
Bias	6
Marriage	4
Role-Playing	1
More Difficult to Find Self-Satisfaction	1
Not Married - Problems the Same	1
Privileges for Women	1

When the guidance counselors were asked, "Do you think women face some problems of a different nature than those faced by men?," sixty-four percent from Group A and 55 percent from Group B replied yes and 35 percent from A and 42.50 percent from B replied no. The differences which they listed can be seen in Table 74.

TABLE 74

If So, What Are the Differences?

Differences	Group A Number	Group B Number
Male Acceptance/Prejudice	18	13
Marriage	17	4
Pregnancy	16	4
Peer Approval	5	0
Societal Expectations	4	0
Nature of Men/Women	3	5
Isolation	3	0
Other	8	3

The "no" responses indicate that 35 percent of the counselors in Group A and 42.50 percent in Group B feel men and women medical students face similar problems.

In conclusion it can be inferred that the guidance counselors perceive male acceptance/bias as being more serious for the women medical students than the students themselves think it is. This is most true concerning the question of bias/acceptance by the male population in medical school (more so than with the problems of marriage and pregnancy which were discussed previously).

This section deals with the other problems which, according to the women medical students, must be dealt with in medical school. Included in these are: academic, financial, social and personal problems.

Marriage, pregnancy, marriage plans and male bias/acceptance, treated separately in the previous section, will be included in this general section but will not be dealt with in depth.

The women medical students were asked to list what problems they encountered as medical students. Specifically they were asked by the interviewers if they faced academic, personal, financial, social, marriage, marriage plans or pregnancy problems? This information was then put to the guidance counselors to see if significant agreement could be obtained. Firstly, we will deal with the women medical students' responses.

When asked to describe the above mentioned problems they did so as follows:

TABLE 64

What Problems Do You as a Medical Student Face (Academic, Personal, Financial, Social, Marriage or Marriage Plans, Pregnancy)?

Problem	Number
Personal	21
Social	21
Financial	17
Academic	11
Marriage, Marriage Plans, Pregnancy	10
Other	8

As can be seen the most frequent responses concern financial, social and personal problems. The women medical students were then asked to list what their major problem was. Table 75 indicates their responses.

TABLE 75

What Is Your Major Problem?
(Not Answered by all Students)

Problem	Number
Personal	9
Financial	5
Time	4
Fiance/Boyfriend	4
Social	3
Academic	2
Miscellaneous	2

It must be noted that not all of the women medical students responded to this question because many of them did not feel that any of the problems were major ones. Also, it should be noted here, that the question put to the women medical students was worded as follows: "What problems do you as a medical student face (academic, personal, financial, social, marriage or marriage plans, pregnancy)?" It does not refer specifically to women. The guidance counselors were asked (in order to compare these responses), "What would you consider to be the most serious problems encountered by medical students?" Again, this does not ask the counselors to respond to problems specific to women. Their response is seen in Table 76.

TABLE 76

What Would You Consider To Be the Most Serious Problems Encountered By Medical Students?

Problem	Group A Number	Group B Number
Academic	34	13
Financial	27	17
Time	25	8
Personal	13	5
Competition/Pressure	6	8
Social	4	3
Time (Years)	3	7
Admission	0	7
Other	2	1

Academic, personal and financial problems are seen as major by both groups. It must be stated, however, the guidance counselors were asked to list the most serious problems encountered by medical students. The women medical students were asked only to comment on problems. As stated before, only 29 of the 40 women interviewed listed one of these problems as being major.

Social problems, as can be seen in Table 76 were not listed as frequently by the guidance counselors as by the women medical students. Even though 21 women medical students admitted the existence of a social problem only 3 saw it as a major one. One might possibly infer that guidance counselors as a group are not as sensitive to the social needs of medical students as they are of the other more tangible problems.

Also, they did not list marriage, marriage plans or pregnancy as being serious problems for medical students. Thirteen women medical students did see it as being a problem, however, none saw it as serious. Since the guidance counselors were asked to view the entire population (both men and women) of medical students, they did not perceive marriage and pregnancy as serious problems.

The follow-up question asked of the guidance counselors was, "Do you think women face some problems of a different nature than those faced by men? If so, what are the differences?" As previously reported, 64 percent of the counselors in Group A and 55.00 percent in Group B answered yes to the question. Thirty-six percent in Group A and 42.50 percent in Group B replied no. The differences they gave are detailed in Table 77.

TABLE 77

If So, What Are the Differences?

Differences	Group A Number	Group B Number
Male Acceptance/Prejudice	18	13
Marriage	17	4
Pregnancy	16	4
Peer Approval	5	0
Societal Expectations	4	0
Nature of Men/Women	3	5
Isolation	3	0
Other	8	3

About one-half of the women medical students felt that medical school was more difficult for them than for a male medical student as Table 67 indicates.

TABLE 67

Do You Think That The Fact You Are a Woman Makes Medical School More Difficult For You Than For The Male Students?

	Number	Percent
Yes	11	27.50
No	20	50.00
Maybe	9	22.50
Total	40	100.00

They detailed their reasons as follows:

TABLE 78

Why Or Why Not?

Reason	Number
Same Problems and Demands For Both	13
Social/Personal Problems	12
Bias	6
Marriage	4
Role-Playing	1
More Difficult to Find Self-Satisfaction	1
Not Married - Problems the Same	1
Privileges for Women	1

As stated in the first section, dealing with marriage and pregnancy, this question was worded differently in each questionnaire yet this does not completely invalidate any attempted comparison of the responses between the guidance counselors and the women medical students. The major reason for the difference was probably that the guidance counselors, according to the interviewer, were more or less guided by a previous question (16) which read, "What would you consider to be the most serious problems encountered by women medical students?" The guidance counselors were not only thinking of problems of a different nature but also the seriousness of these problems as they pertain to women medical students. Also, the second group (B) were mailed the questionnaire (not interviewed over the phone) and had the questionnaire in front of them throughout the period for answering it. They were thus free to refer back and forth.

In looking at the responses of the guidance counselors and the women medical students it can be seen that the category of social and personal problems were listed more times as being the reason medical school was more difficult for them than for male medical students. The guidance counselors, however, listed it only 3 times in the "Other" category and not at all in answering question 16. The responses given in answer to question 16,"What would you consider to be the most serious problems encountered by women medical students?," look as follows:

TABLE 79

What Would you Consider to be the Most Serious Problems Encountered by Women Medical Students?

	Group A Number	Group B Number
Male Acceptance/Prejudice	40	22
Overcoming Image of Medicine as a Male Profession	9	3
Marriage and Pregnancy	7	9
Same Problems for Both Sexes	7	1
Academic	4	0
Necessity to Prove Self/ Competition	3	3
Financial	3	1
Admission to School	0	3
Other	7	4

This lack of response (relative to the women medical students) could indicate a lack of sensitivity in the guidance counselors toward the social and personal problems women face in medical school. Where the women medical students emphasized social and personal problems the guidance counselors emphasized marriage, pregnancy and male acceptance/bias.

These problems were also dealt with in question 17 where the guidance counselors were asked to rate on a 1 - 4 scale, the seriousness of various problems to a woman medical student. The importance of a limited social life to a woman medical student was rated in the following way:

TABLE 80

	Group A		Group B	
	Number	Percent	Number	Percent
Limited Social Life				
Very Important	3	4.69	3	7.50
Moderately Important	23	35.94	15	37.50
Minimally Important	30	46.88	16	40.00
Not Important	8	12.50	6	15.00
No Answer	0	00.00	0	00.00
Total	64	100.01	40	100.00

As can be seen, only 4.69 percent of the counselors from Group A and 7.50 percent from Group B thought it to be very important, however, a significant number in both groups saw it as moderately important. This is inconsistent with the reply of the guidance counselors to the question, "What would you consider to be the most serious problems encountered by women medical students?" and also, to some extent, with question 23 which states, "What would you consider to be the most serious problems encountered by medical students?" In this question (17) 36 percent in Group A and 37.50 percent in Group B saw limited social life as moderately important to a woman medical student, whereas none listed it as one of the serious problems faced by women medical students (see Table 79) and only 3 counselors mentioned social life as being a problem of a different nature for women (see Table 74).

Personal problems also seem to be perceived differently by the guidance counselors and the women medical students. The women medical students saw personal problems as one of the most important they face in medical school. Nine listed it as a major problem (see Table 75), more than any other in fact. Also, it was indicated by 21 women as being a problem they face as a medical student (see Table 64). The guidance counselors also saw personal problems as being serious to a medical student (Table 76). However, it was not seen by the counselors as being one peculiar to women (see Table 79). This is in contrast to the women medical students who saw social and personal problems as being the reason that medical school was more difficult for them than for a male student (see Table 78). A few women specifically stated that they had trouble breaking into the male "social circle" in bars, etc. They also found difficulty relating to men on a personal basis.

The guidance counselors were asked to rate the importance of miscellaneous personal problems to a woman medical student. Table 81 indicates their responses.

TABLE 81

	Group A		Group B	
	Number	Percent	Number	Percent
Miscellaneous Personal Problems				
Very Important	5	7.81	5	12.50
Moderately Important	26	40.63	8	20.00
Minimally Important	24	37.50	24	60.00
Not Important	9	14.06	3	7.50
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

The result of this question tends to further emphasize the conclusions drawn from previous data which point to the lack of knowledge of guidance counselors of problems and situations faced by women medical students. The apparent insensitivity of guidance counselors as evidenced by this question and others (see Tables 74, 76, 77 and 79) should not be interpreted as necessarily deliberate but rather, perhaps, the natural insensitivity which results from ignorance of the specifics of any particular situation.

Research Question 4

What are the perceptions of guidance counselors in Western Pennsylvania high schools of the requirements for students entering medical school and the proper preparation for entrance into medical school?

The following questions from guidance counselor Questionnaire III were used to address this question:

1. How would you rate yourself with regard to your knowledge of innovations in medical education?
2. Do you think it is important that a candidate for medical school be a "well-rounded" individual? Why or why not?
3. What kinds of extracurricular activities do you think would be best for someone contemplating entering medicine?
4. Do you think a student of average academic ability can succeed in medical school? Why or why not?
5. Have you actively discouraged students from entering the profession of medicine as a career? If so, what kinds of students have you discouraged?
6. In general, what advice would you give to a student contemplating entering the profession of medicine?

By their own admission the high school guidance counselors are not well-informed regarding innovations in medical education. When asked to rate themselves "with regard to your knowledge of innovations in medical education" the guidance counselors replied as follows:

TABLE 82

How Would You Rate Yourself With Regard to Your Knowledge of Innovations in Medical Education?

	Group A		Group B	
	Number	Percent	Number	Percent
Well-Informed	2	3.13	2	5.00
Moderately Informed	30	46.88	11	27.50
Minimally Informed	30	46.88	25	62.50
Not Informed	2	3.13	2	5.00
No Answer	0	00.00	0	00.00
Total	64	100.02	40	100.00

As the guidance counselors were not asked to give specific examples of innovations, the validity of their opinion as to their own level of knowledge cannot be determined.

Since the opinions of the guidance counselors regarding the admission of women into medical school have been considered elsewhere, this information will simply be summarized here.

When questioned regarding the factors taken into consideration by admissions committees of medical schools in the admission of women into medical school, the general factors listed by the guidance counselors were academic, personal and social. They showed some degree of knowledge of the requirements and the primacy of the academic factor. With regard to academic considerations, the student's aptitude and ability in math and science, followed by overall performance, were rated most highly. The category of emotional maturity was seen to be most important in the area of personal factors and extracurricular activities were most often noted in the area of social factors.

The vast majority of the answers were extremely general, however, and did not reflect much detailed knowledge of admissions requirements. A minority of guidance counselors (26.56% in Group A and 37.50% in Group B) answered "I don't know" when asked "Do you think medical schools have taken steps which are more accommodating toward women in terms of their programs, attitude of faculty, attitude of students, etc.?" The majority of those answering "yes" (of which there were 43) were either unsupported statements (18) or based on literature/media (15). Many of the guidance counselors (73.44% in Group A and 90.00% in Group B) thought some medical schools had quotas for women and minority groups, an assertion which cannot be substantiated. Finally, the majority of the guidance counselors thought medical education had changed in the last ten years in terms of acceptance of women and minority groups (89.06% in Group A and 75.00% in Group B). Statistics show that more women are being accepted into medical school, but the percentage of women accepted in relation to the number applying has not increased. It has in fact decreased due to the larger numbers of students applying but is still slightly higher than the comparative percentage of men accepted to those applying (Dube, 1973).

The counselors thought it important that a candidate for medical school be a "well-rounded" individual as indicated in Table 83.

TABLE 83

Do you Think it is Important that a Candidate for Medical School be a "Well-Rounded" Individual?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes*	56	87.50	38	95.00
No**	8	12.50	2	5.00
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

When asked for their reasons (Table 84), the largest number (48 in Group A and 16 in Group B) responded that it was necessary for physicians to get along with all types of people. This included other physicians, other medical personnel, patients, etc. A sizable number of guidance counselors (22 in Group A and 13 in Group B) noted that proper balance was necessary. The complete table is as follows:

TABLE 84

Why or Why Not (Yes*)

Reason	Group A Number	Group B Number
Necessary to Get Along With All Types of People	48	16
Proper Balance Necessary	22	13
Other	4	7

Why or Why Not (No**)

Reason	Group A Number	Group B Number
Competency Most Important Factor	7	2

The guidance counselors were also asked what kinds of extracurricular activities they thought "would be best for someone contemplating entering medicine?" Their answers are tabulated in Table 85.

TABLE 85

What Kinds of Extra-Curricular Activities Do You Think Would Be Best For Someone Contemplating Entering Medicine?

Extra-Curricular Activity	Group A Number	Group B Number
Exposure to Health Profession	24	6
Volunteer/Service	21	10
People Oriented Activity	19	8
Anything	16	2
Athletics	11	15
Leadership Activities	10	5
Science	8	8
Fine Arts	8	7
Debate	5	2
Student Government	4	2
Newspaper	3	0
School Clubs	2	3
Variety	0	6
Other	6	2

As can be seen, the guidance counselors felt it most important for a potential candidate for medical school to be exposed to the health professions and to engage in some form of social service. Although the guidance counselors were not specifically asked if they considered extracurricular activities an important part of the preparation for someone contemplating entering medicine, their positive response to the question of a physician being "well-rounded" would seem to imply a positive response in this area.

The counselor's perceptions regarding outside activities for those entering medicine were compared with the activities of the women medical students. The majority of those interviewed indicated that their focus in high school was academic as the following Table indicates.

TABLE 86

Was Your Most Important Focus on Academics or Did Extracurricular Activities Play A Significant Part in Your High School Life?

Focus	Number	Percent
Academics	24	60.00
Extracurricular	2	5.00
Both	13	32.50
Neither	1	2.50
Total	40	100.00

However, most of the women had participated in extracurricular activities. In fact, as Table 87 shows, only one reported no extracurricular activities. Most of them indicated more than one extracurricular activity and a sizable proportion were involved in a variety of them.

TABLE 87

What Extracurricular Activities Did You Participate In In High School?

Extracurricular Activity	Number
Music	19
Sports	15
National Honor Society	15
Miscellaneous Clubs/Committees	14
Science Clubs	10
Newspaper	10
Yearbook	8
Student Government	8
Dramatics	7
Debating	6
Cheerleader	4
Job	4
Church Activities	4
Hospital Work	3
Health Careers/Clubs	2
None	1
Miscellaneous	13

The women were then asked to list their most important extracurricular activities, with the following results:

TABLE 88

What Were Your Most Important Extracurricular Activities?

Extracurricular Activity	Number
Music	12
Newspaper	5
Debating	5
Miscellaneous Clubs	5
Sports	3
Church Activities	2
Job	2
Dramatics	2
Miscellaneous	3

The responses of the women medical students regarding extracurricular activities revealed that these women placed a high degree of importance on them, although they were not asked if they felt these activities were important in their acceptance into medical school. The extracurricular activities listed by the guidance counselors and the women medical students were the same in a number of instances. Of some interest is the fact that while the guidance counselors rarely mentioned it, music was considered by the women students to be one of their major interests (see Table 87 and 88).

The guidance counselors were almost equally divided in their opinion of whether a "student of average academic ability can succeed in medical school." Their responses are seen in Table 36.

TABLE 36

Do You Think a Student of Average Academic Ability Can Succeed In Medical School?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes*	32	50.00	18	45.00
No**	30	46.88	21	52.50
Don't Know	2	3.13	1	2.50
No Answer	0	00.00	0	00.00
Total	64	100.01	40	100.00

The factor of motivation was recognized by almost all of the counselors as being crucial. In the opinion of the interviewer many of the guidance counselors were reluctant to completely close out the option of attending medical school to a student of average academic ability but were extremely reluctant to predict success especially due to the heavy academic load in medical school. This is reflected, to some extent, in the reasons given for their answers as shown in Tables 37 and 38.

TABLE 37

Why Or Why Not? (Yes*)

Reason	Group A Number	Group B Number
If Motivated	24	14
With Strong Reservations	4	4
Realize Demands	3	0
Other	5	0

TABLE 38

Why Or Why Not? (No**)

Reason	Group A Number	Group B Number
Too Demanding	22	16
Difficulty of Success/ Acceptance	5	6
Other	3	2

Some awareness of the rigorous competition for the available places was demonstrated by the guidance counselors. Their knowledge relating to the stiff academic demands of a medical career is also reflected in their answers to the following questions seen in Tables 39, 89 and 90.

TABLE 39

Have You Actively Discouraged Students From Entering the Profession of Medicine as a Career?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	9	14.06	12	30.00
No	55	85.94	28	70.00
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

TABLE 89

If So, What Kinds of Students Have You Discouraged?

	Group A	Group B
Student	Number	Number
Below Average Academic Ability	10	10
Other	1	1

TABLE 90

What Have Been Your Reasons?

Reason	Group A Number	Group B Number
Couldn't Succeed for Academic Reasons	6	7
Couldn't Succeed for Reasons Other Than Academic	4	1
Other	1	2

As can be seen, virtually all of the guidance counselors discouraged those students whom they perceived to be below average academic ability.

A summary of the kinds of advice the guidance counselors would give to "a student contemplating entering the profession of medicine" is listed in Table 91.

TABLE 91

In General, What Advice Would You Give to a Student Contemplating Entering the Profession of Medicine?

Advice	Group A Number	Group B Number
Academic	47	26
Personal	44	20
Knowledge of Field/Requirements	29	11
Potential Problems	13	9
Recognize Time (Years)	12	4
Be Dedicated	12	0
Recognize Financial Commitment/ Return	11	4
Work Hard	7	9
Be Involved in Activities	7	3
Altruistic	4	7
Good Luck	3	0
Be Aware of Other Options	2	3
Other	8	5

Consistent with the counselor's concern with the academic demands of the profession, advice concerning these matters was given most often. Their personal advice related to such diverse areas as knowing one's own strengths and weaknesses; being willing to sacrifice; being able to relate to people; and attaining personal excellence. Another important consideration of the counselors was that potential applicants attain a knowledge of the field and its requirements. As noted in previous questions, the advice given in this question did not reflect specific knowledge of the entrance requirements and proper preparation for entrance into medical school.

This sample of guidance counselors appeared to have a general knowledge of the requirements for entrance into medical school, and were especially aware of the rigorous academic demands therein. They thought medicine was more open now to women and minorities than in previous years even to the extent of believing a quota system exists. However, little detailed knowledge of specific entrance requirements was exhibited and in some cases they admitted to this lack of knowledge. This deficiency, though not actually a deterrent in the generally accepted sense of the word, certainly cannot serve to facilitate a youg woman's progress through the many steps leading toward the M.D. degree.

Research Question 5

Does the personal background of the guidance counselor make a difference in the overall response to the issues surveyed?

The following factors were examined to determine if they had any effect upon the responses made by the guidance counselors; age, sex, years as a guidance counselor, size of teaching town, and highest educational degree obtained.

In the process of grouping the counselors according to the above categories, it was found that the great majority (86.55%) had received a Master's degree. Given this, it was decided to eliminate this characteristic from consideration.

The research method employed in this section of the study was the Guttman Lingoes Smallest Space Analysis previously described. One hundred nineteen guidance counselors (eighty men and thirty-nine women) were included. The coordinates which were obtained through the use of Smallest Space Analysis were plotted on two dimensional graph paper. It was decided the use of three dimensions did not materially aid in the interpretation of the data; therefore, for this research question the data was displayed in two dimensions.

The primary data used for the analysis was obtained from the guidance counselor selection of successful medical students. Because this profile selection was made before the counselors knew the purpose of the study, it was felt the responses given would be more objective than those given in the questionnaire. The results obtained through the use of Smallest Space Analysis were supplemented by data from

Questionnaire III.

The age, sex, years as a guidance counselor and size of teaching town were all obtained from the biographical questionnaire (Questionnaire II) which also gave no hint as to the purpose of the study. The number of counselors participating in the rest of the study was 87.39% of the original sample (104) which was not greater than expected attrition in studies of this nature.

The paired comparisons data was sorted according to the categories of the several variables and then reanalyzed. Male and female counselors were separated and their profile selection responses were plotted according to seven items appearing on the profile cards (Sex, Race, Science GPA, Math GPA, Rank in Class, CEEB Verbal score and CEEB Quantitative score). Father's Occupation was not included since, as previously stated, it closely paralleled the differentiation of the students by sex. Mother's Occupation was eliminated because there was no appropriate characteristic upon which to differentiate the various occupations, similarly for the Comments and Extra-curricular Activities.

In order to aid in interpreting the data Table 1 will be reproduced here.

TABLE 1

Summary of Information Included on Student Profiles

Student	Sex	Race	Science GPA	Math GPA	Rank	Verbal CEEB	Quantitative CEEB
1	Male	White	3.83	3.23L	90	620	715
2	Male	Black	3.20L	3.20L	85L	534L	407L
3	Female	White	3.89	3.77	95	719	762
4	Male	White	3.63L	3.00L	85L	443L	608
5	Female	White	3.79	3.12L	90	691	545L
6	Female	Black	3.19L	2.87L	85L	497L	444L
7	Male	White	3.82	3.92	95	523L	611
8	Male	White	3.94	3.93	95	630	700
9	Female	White	3.39L	3.27	85L	673	705
10	Female	White	3.88	3.62	95	455L	527L
11	Female	Black	2.83L	2.87L	80L	560	570L
12	Male	Black	3.27L	3.33	90	500L	610

L = Low

The first variable held constant was the sex of the guidance counselor. The data were plotted and were examined in terms of the sex of the student to see if the women and men counselors made their selection on that basis (Figures 6 and 7). No observable differences were found as the students were in no way grouped according to sex.

The race of the students was the next factor examined and again the results were negative. No cluster according to their race appeared as a function of the sex of the guidance counselor. Average GPA (including both math and science) and the Science GPA alone were also examined with negative results. When examining the criterion of Rank in class a grouping effect did occur (Figures 8 and 9). The students were separated according to Rank by the women counselors. Those of low Rank (80 and 85) are found in one group, tnose of high Rank (90 and 95) are found in a separate one. Some overlapping can be seen with Student 1. The same effect was noted with the men counselors although less clear differentiation existed between the two groups. The other criteria (CEEB Verbal and CEEB Quantitative) were examined with no significant configuration apparent.

The age of the guidance counselors and its effect upon their selection was the next variable to be examined. The guidance counselors were divided into two age groups, one 21 - 40 years of age and the other over 40. Sex of the students was examined and no observable differences were found (Figures 10 and 11). Male and female students are randomly scattered throughout the plot with no clustering according to their sex apparent.

The same negative results were found when the criteria of Race, Average GPA and Science GPA were examined. Rank again yielded a grouping effect as was demonstrated when the guidance counselors were divided according to their sex (Figures 12 and 13). Those guidance counselors in the age category Over 40 demonstrated a clustering effect. This indicates they made their selection of which student would be more successful in medical school based on the Rank in class of the student.

However, this clustering effect was not as pronounced in those guidance counselors of the age category 21 - 40. Thus it can be seen that there was some though probably no practical difference between the two groups of guidance counselors. No observable differences appear using the criteria of CEEB Verbal score and CEEB Quantitative score.

With regard to the characteristic of Years as a guidance counselor the counselors were divided into two groups - those who had been guidance counselors 15 years or less and those who had been counselors over 15 years. Again the seven characteristics of the students were examined with the following results.

Examination of the selection of the guidance counselors along the dimension of the sex of the students resulted again in a negative finding (Figures 14 and 15). As with the personal characteristics of the sex and age of the guidance counselors, no clustering was observed. The students were arranged in apparent random order on the graph. No separation or clustering of students were noted when the criteria of Race, Science GPA and Average GPA were examined. Those who had been guidance counselors less than 15 years apparently made their determination based, at least in part, on the high school students' Rank in class (Figure 16); however, Student 7 with a high rank is included in the group of low-ranked ones. Those counselors who had been in the profession over 15 years did not appear to use the criterion of Rank as Figure 17 illustrates. The differentiation observed with respect to Rank was not observed when examining the criteria of CEEB Verbal score and CEEB Quantitative score.

The final characteristic of the guidance counselors to be examined was the size of teachinq town. For this purpose the guidance counselors were divided into Urban (including those in the Suburban category) and Rural (including those in Small Towns). The seven items on the profiles were again examined. The criterion of Sex yielded no apparent differences according to the size of teaching town (Figures 18 and 19). In both the Rural and Urban categories the graphs show the students are scattered randomly throughout. With the criterion of Race, again no difference can be observed. No apparent clusterings were noted from the criteria of Average GPA and Science GPA.

When examining the Rank of the students a clustering effect was again noted, especially with the Urban counselors (Figures 20 and 21). Although Student 1 of high rank is within the low rank cluster and Student 3, also of high rank approaches that group, there is evidence of the students being differentiated according to Rank in the Urban counselors. The same clustering was not noted with the Rural counselors which is an apparent difference (but unexplained except perhaps as a data artifact) between the two groups. The criteria of CEEB Verbal score and CEEB Quantitative score also yielded no observable differences.

The criterion of Rank which was found to be the one variable upon which many of the counselors based their decision when all counselors were examined, was again important when they were divided according to Sex, Age and Years as a guidance counselor. Although the entire population of guidance counselors differentiated the students according to their Rank, this was more true of only certain groups when the guidance counselors were divided by the variables of (1) Sex, (2) Age, (3) Years as a Counselor and (4) Size of Teaching Town. Women counselors tended to use the Rank of the student as a determinant more than men counselors, those of ages 41 and above more than those counselors age 21 - 40, ones who had been counselors 0 - 15 years more than those with counseling experience of more than 15 years and Urban rather than Rural counselors.

To substantiate the findings obtained by Smallest Space Analysis a number of questions were utilized from Questionnaire III to determine if the guidance counselors possessed different attitudes toward women and men with respect to their practicing medicine. The guidance counselor population was, as in the first part of this research question, divided by the categories (1) Sex, (2) Age, (3) Years as a guidance counselor and (4) Size of teaching town. The following forced-choice questions were chosen as being most likely to detect differences in attitude toward women and men in medicine:

1. Do you think a woman can pursue a career in medicine as successfully as a man?
2. Are you aware of anything that has changed your attitude toward women entering the profession of medicine?
3. Do you think medical schools have taken steps which are more accommodating toward women in terms of their programs, attitude of faculty, attitude of students, etc.?
4. Is it your opinion that some medical schools, either officially or unofficially currently have quotas for minority group enrollment, including women?
5. Do you think women would be more successful in some fields of medicine such as pediatrics, rather than in other fields such as surgery?
6. Do you think medical education has changed significantly in the last ten years in terms of acceptance of women, acceptance of other minority groups, etc.?
7. Do you think that women are more suited to some fields and less suited to other fields?

8. Do you think that men are more suited to some fields and less suited to other fields?
9. Do you think women medical students face some problems of a different nature than those faced by men medical students?

Although there were differences in answers between the women and men in the guidance counselor population, they were not enough to indicate that the men guidance counselors possessed an attitude toward women in medicine substantially different from those of the women guidance counselors. Within Group A, the most noticeable difference between the answers of the men and women guidance counselors was the following: "Do you think that men are more suited to some fields and less suited to other fields?" Of the men guidance counselors, 76.19% of the men guidance counselors answered "yes" while only 61.90% of the women guidance counselors responded similarly. This difference was not large enough to be of significance. The differences in answers to the other questions were even less marked. The conclusion reached from the paired-comparisons data that guidance counselors did not differentiate between the students according to the sex of the student is at least tentatively supported by the answers of the guidance counselors in Group A. The men counselors in Group B, however, tended to be more negative to women in medicine than the women counselors, but this tendency is slight and since the number of guidance counselors in the sample is small (40) too much reliance should not be placed on this.

The guidance counselors were classified according to age (21 - 40 and Over 40) and their answers to the above-mentioned questions were again examined. Of the guidance counselors in Group A, 72.31% were over 40 while of those in Group B the percentage was 64.81. Group A substantiated the conclusions of the paired comparisons data that there were no observable differences by age group of counselors. The answers of Group B showed some minor difference between the two counselor age groups.

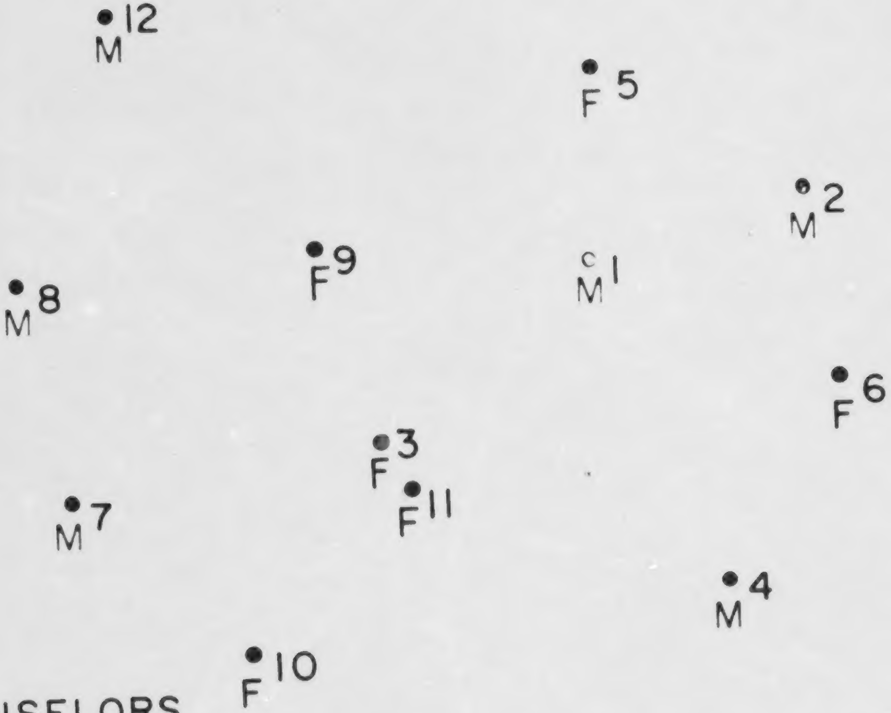
Of the guidance counselors in Group A, 87.67 % had been performing as counselors for less than 15 years, while 79.64% of the guidance counselors in Group B had been in that capacity for less than 15 years. Since the percentage of guidance counselors in the two categories less than 15 and more than 15 is so disproportionate, any comparison of the answers would be of little help in adding to the paired comparisons data. Nothing was noted, however, which would weigh against the conclusion that the guidance counselors of both categories of years in the field did not choose the high school students on the basis of sex.

Since 93.85% of the guidance counselors in Group A are in the Urban category, no comparison can be made between the Urban and Rural counselors in that group. The answers of the counselors in Group B to the nine questions did not indicate any observable difference between the counselors from Urban and from Rural areas.

Summary

The data obtained from Questionnaire III tended to support the conclusions of the paired-comparisons data that when considering the sex of the high school student as a criterion for predicting success in medical school, Sex, Age, Years as a guidance counselor and Size of teaching town had no appreciable importance. As was shown in Research Question 1 the guidance counselors did not appear to make their choices based on the sex of the students. When the population was divided according to the four variables, it was still impossible to say the sex of the high school student was a criterion in the decisions of the guidance counselors.

FIG. 6



SUBJECT: MEN COUNSELORS

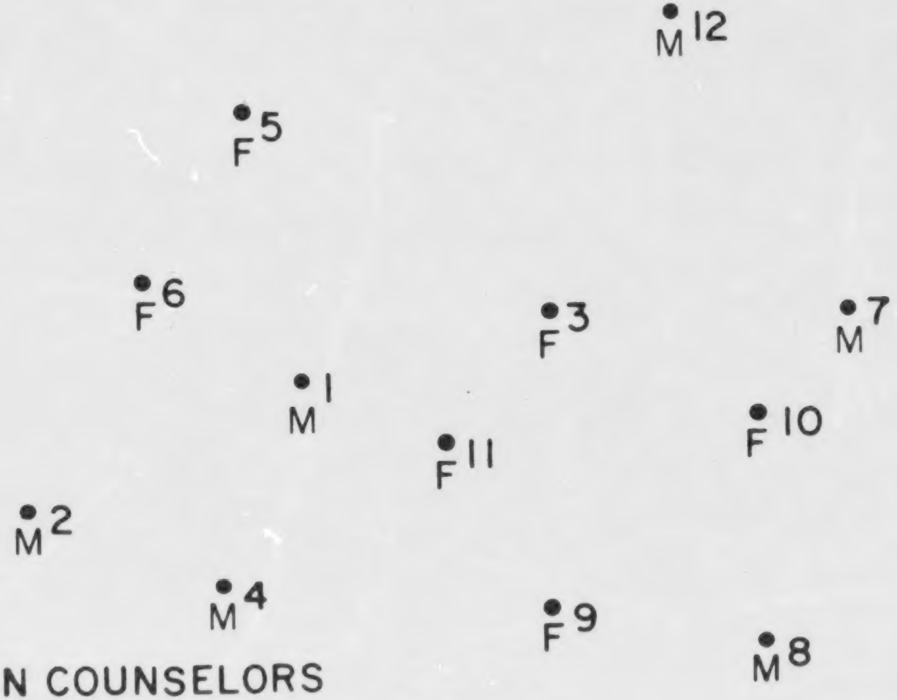
VARIABLE: SEX OF STUDENT

FEMALE-F

MALE-M

KRUSKAL'S STRESS=0.21110

FIG. 7.



SUBJECT: WOMEN COUNSELORS

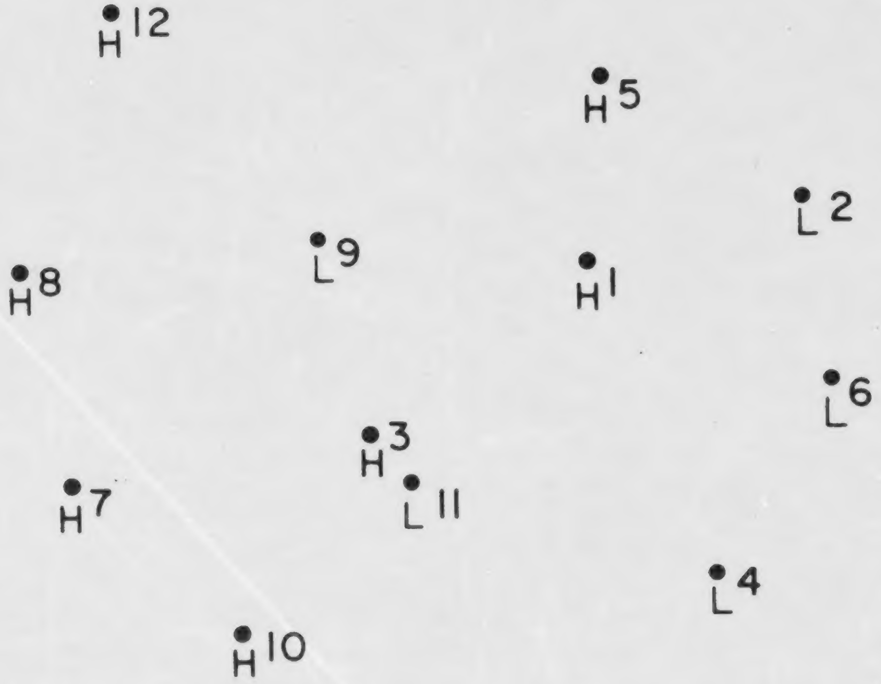
VARIABLE: SEX OF STUDENT

FEMALE - F

MALE - M

KRUSKAL'S STRESS = 0.21853

FIG. 8.

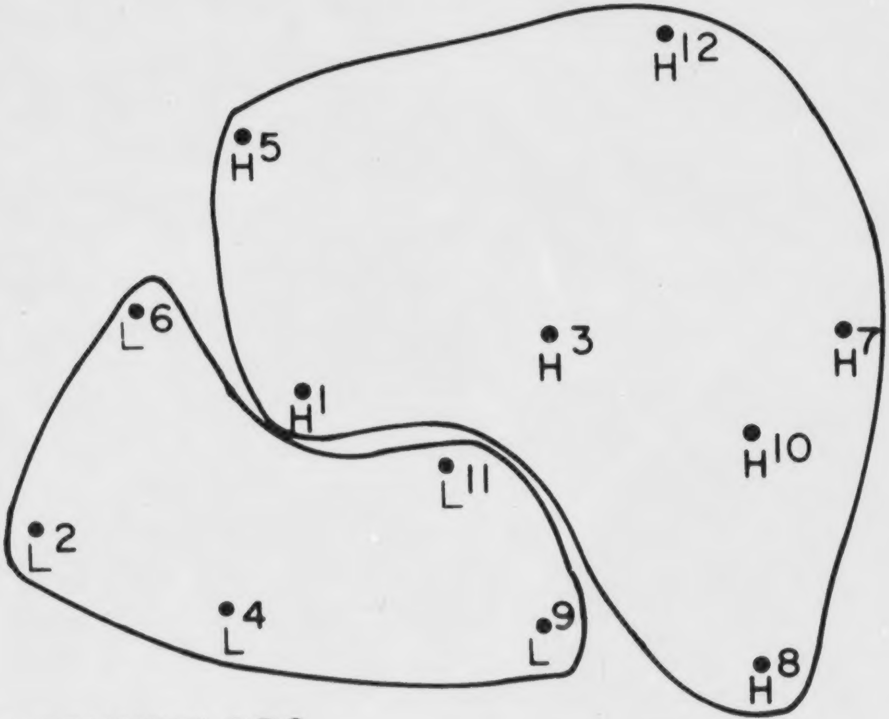


SUBJECTS: MEN COUNSELORS

VARIABLE: STUDENT RANK IN CLASS
HIGH - H
LOW - L

KRUSKAL'S STRESS = 0.21110

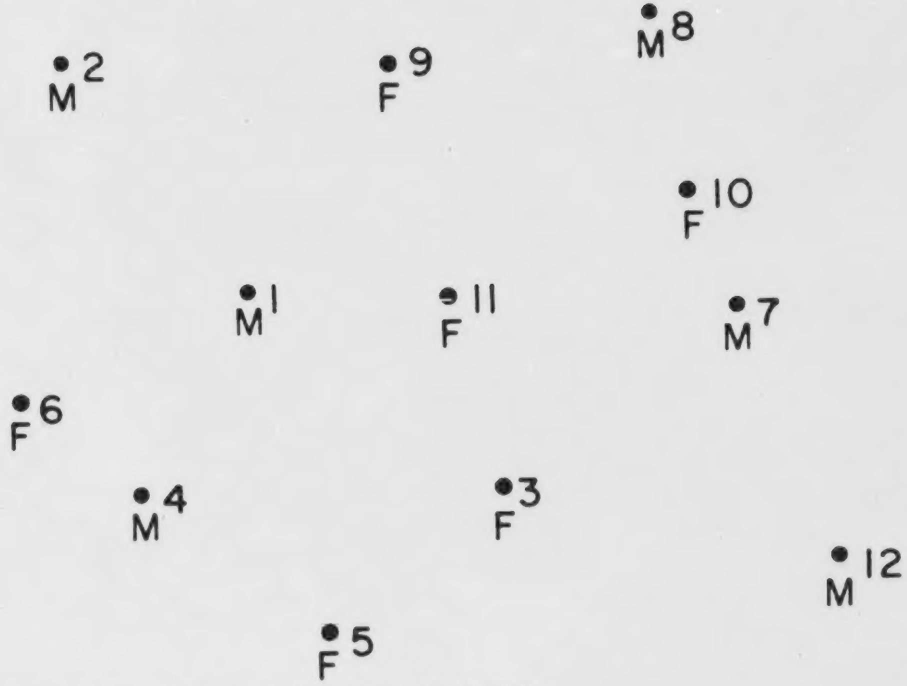
FIG. 9.



SUBJECTS: WOMEN COUNSELORS
VARIABLE: STUDENT RANK IN CLASS
HIGH - H
LOW - L

KRUSKAL'S STRESS = 0.21853

FIG. 10.



SUBJECTS: COUNSELORS AGE 21-40 YEARS

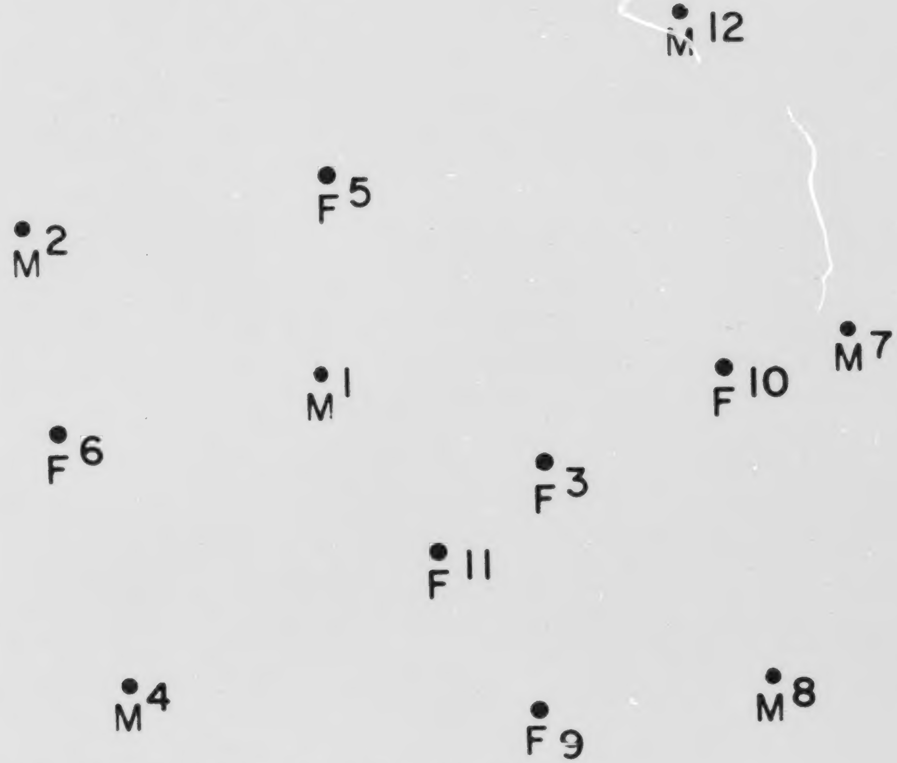
VARIABLE: SEX OF STUDENTS

FEMALE - F

MALE - M

KRUSKAL'S STRESS = 0.24164

FIG. 11.



SUBJECTS: COUNSELORS AGE OVER 40 YEARS

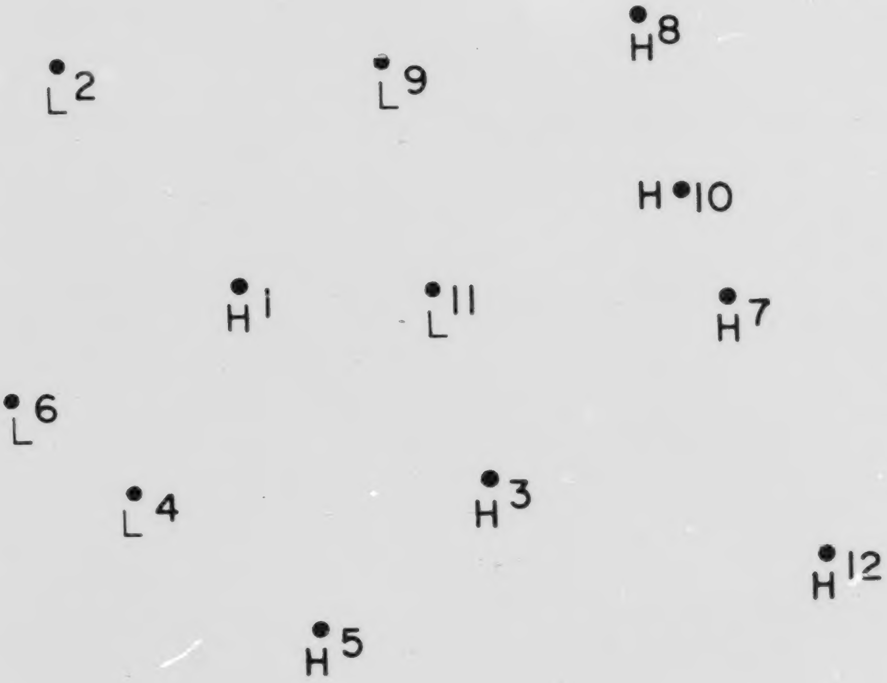
VARIABLE: SEX OF-STUDENT

FEMALE - F

MALE - M

KRUSKAL'S STRESS = 0.21909

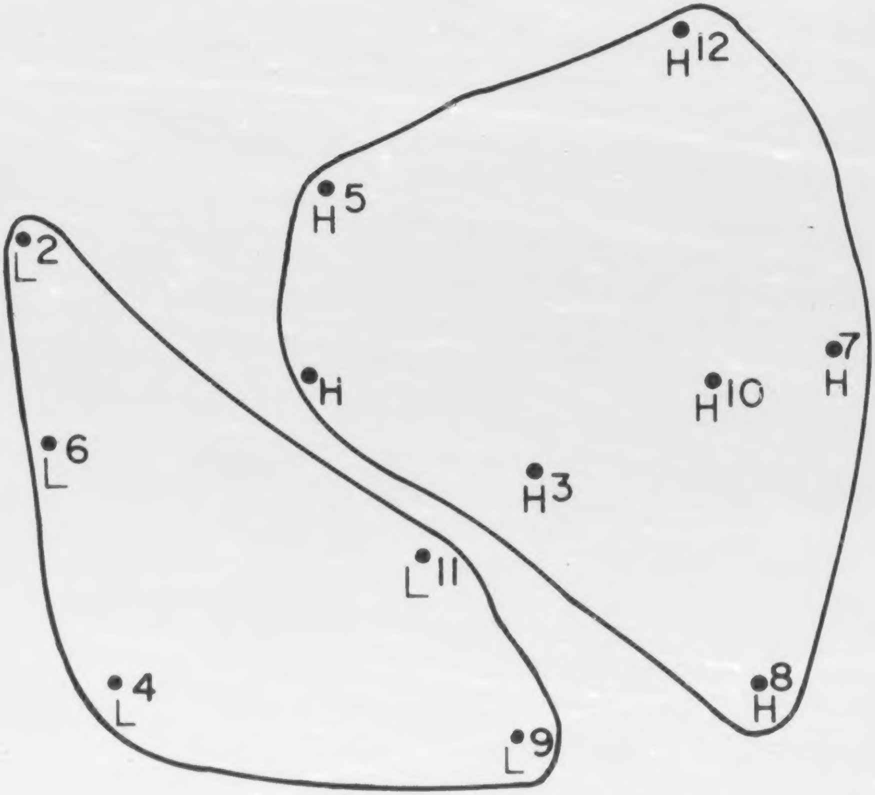
FIG. 12.



SUBJECTS: COUNSELORS AGE 21-40 YEARS
VARIABLE: STUDENT RANK IN CLASS
HIGH = H
LOW = L

KRUSKAL'S STRESS = 0.24164

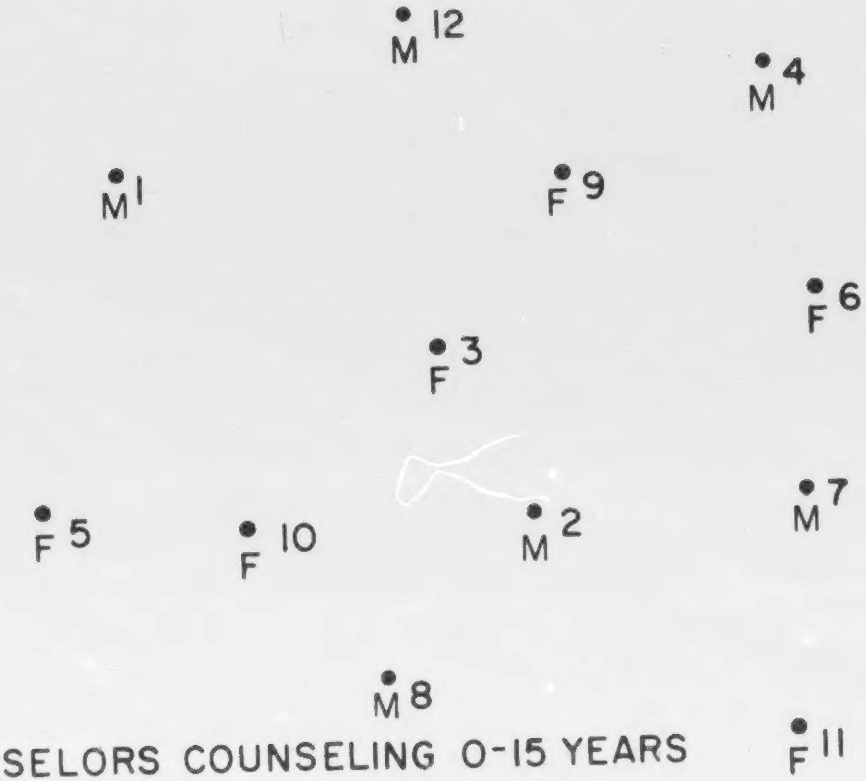
FIG. 13.



SUBJECTS: COUNSELORS AGE OVER 40 YEARS
VARIABLE: STUDENT RANK IN CLASS
HIGH - H
LOW - L

KRUSKAL'S STRESS = 0.21901

FIG. 14.



SUBJECTS: COUNSELORS COUNSELING 0-15 YEARS

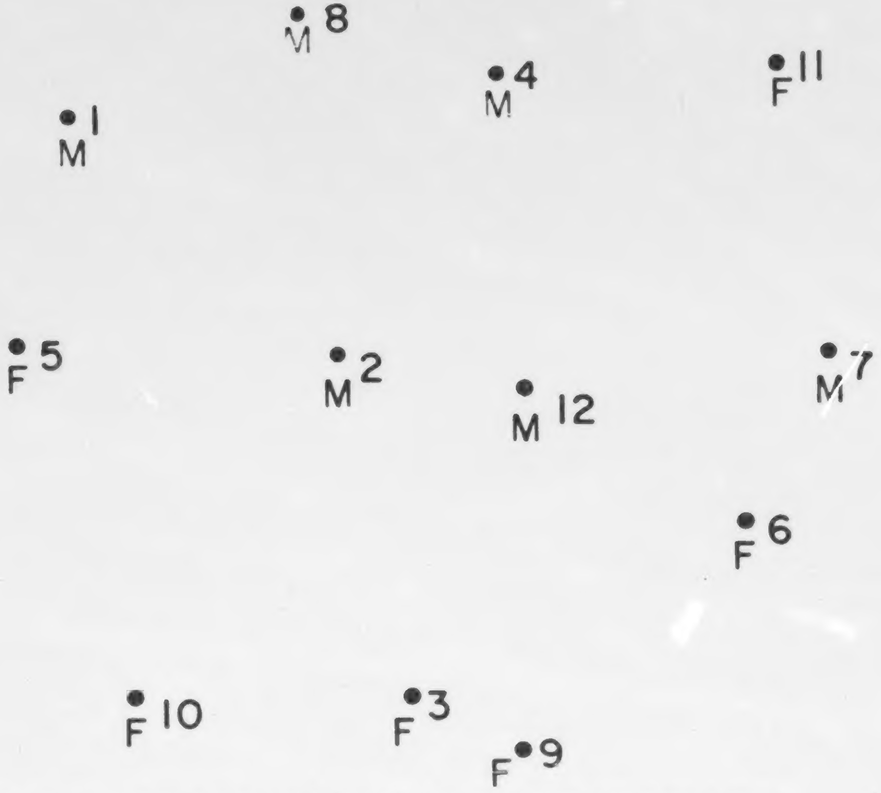
VARIABLE: SEX OF STUDENT

FEMALE - F

MALE - M

KRUSKAL'S STRESS = 0.23454

FIG. 15.



SUBJECTS: COUNSELORS COUNSELING OVER 15 YEARS

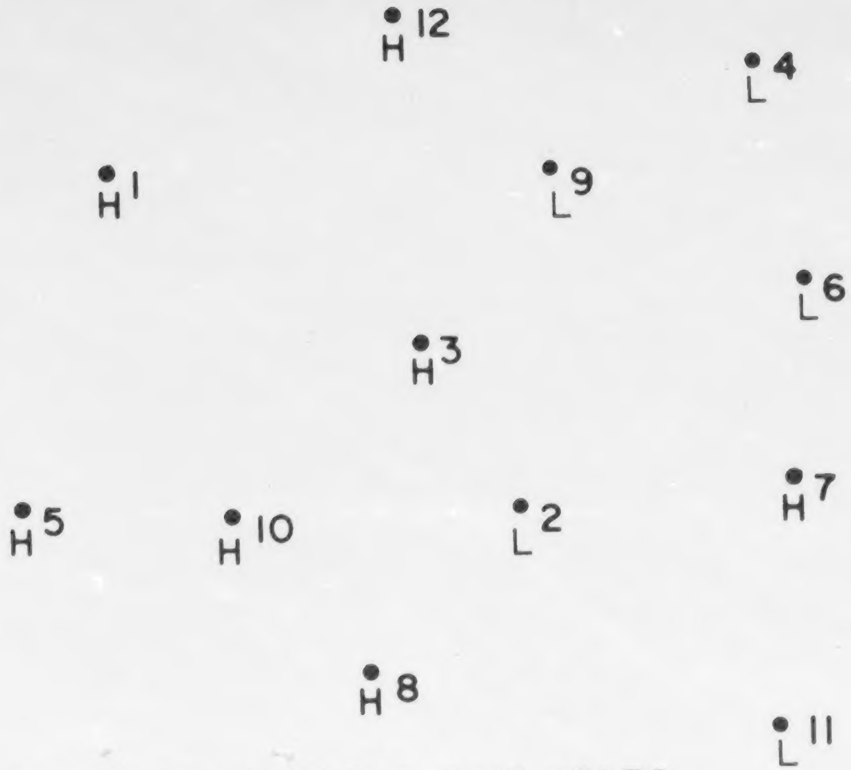
VARIABLE: SEX OF STUDENT

FEMALE - F

MALE - M

KRUSKAL'S STRESS = 0.24775

FIG. 16.



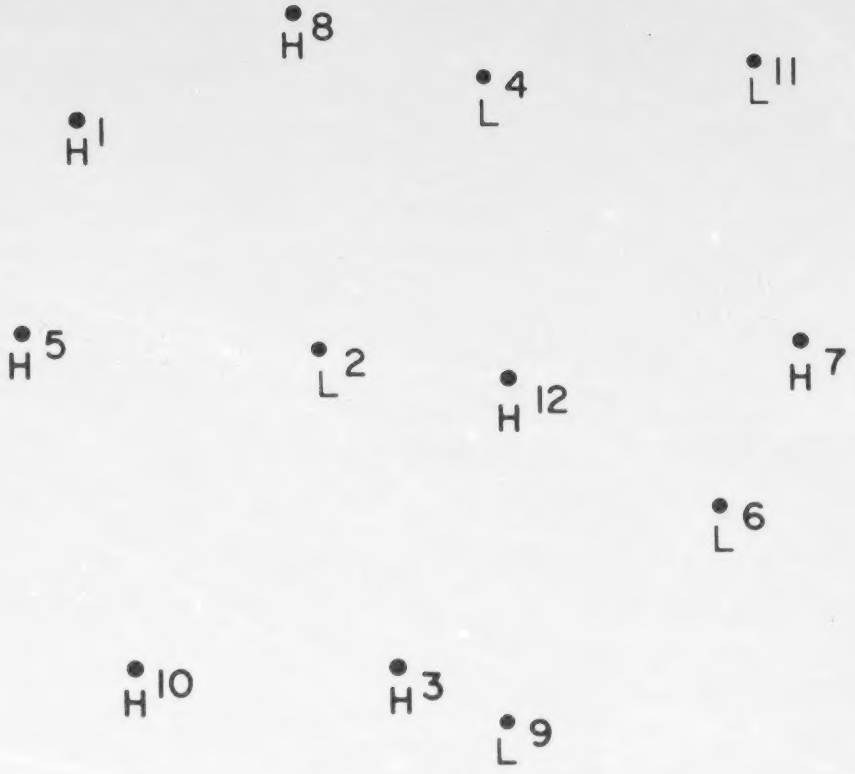
SUBJECTS: COUNSELORS COUNCELING 0-15 YEARS

VARIABLE: STUDENTS RANK IN CLASS

HIGH - H
LOW - L

KRUSKAL'S STRESS = 0.23454

FIG. 17.



SUBJECTS: COUNSELORS COUNSELING OVER 15 YEARS

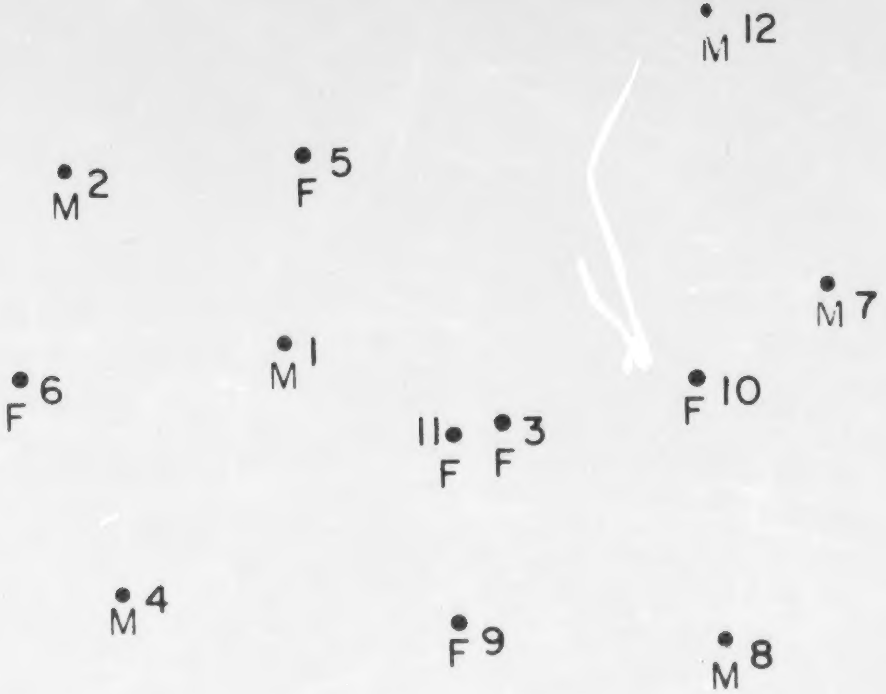
VARIABLE: STUDENT RANK IN CLASS

HIGH - H

LOW - L

KRUSKAL'S STRESS = 0.24775

FIG. 18.



SUBJECTS: URBAN COUNSELORS

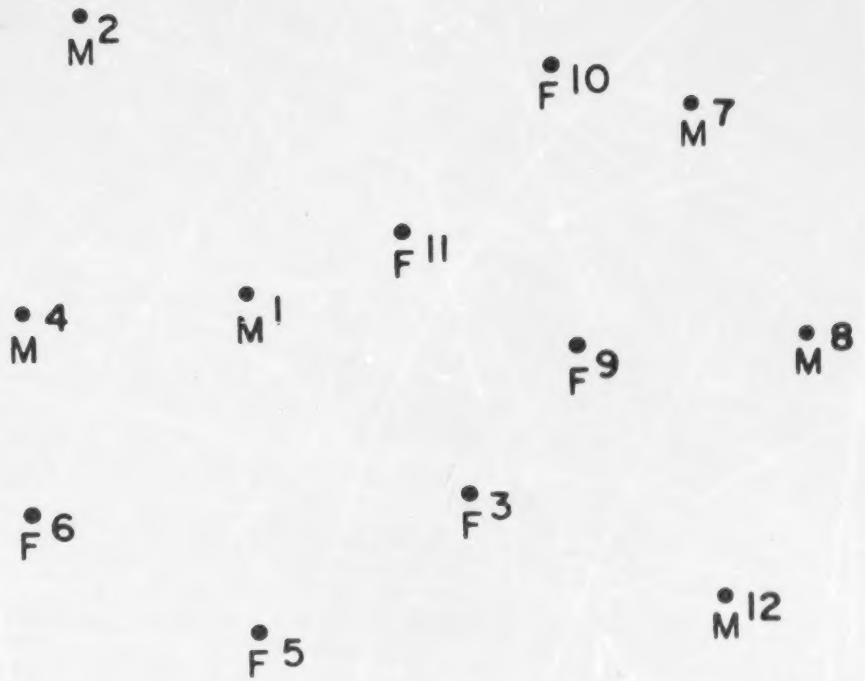
VARIABLE: SEX OF STUDENT

FEMALE - F

MALE - M

KRUSKAL'S STRESS = 0.21150

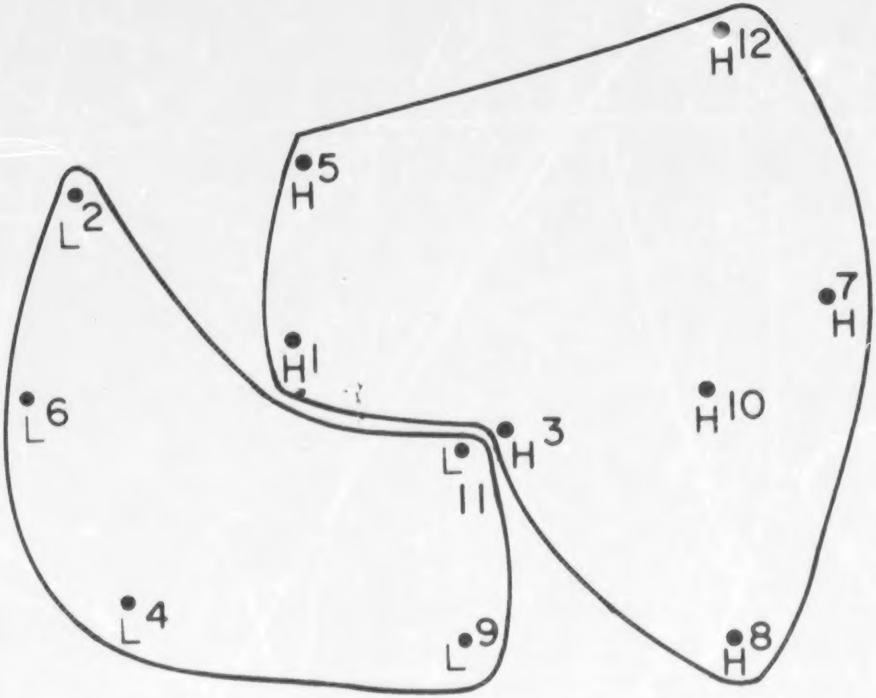
FIG. 19.



SUBJECTS: RURAL COUNSELORS
VARIABLE: SEX OF STUDENT
FEMALE - F
MALE - M

KRUSKAL'S STRESS =0.19820

FIG. 20.

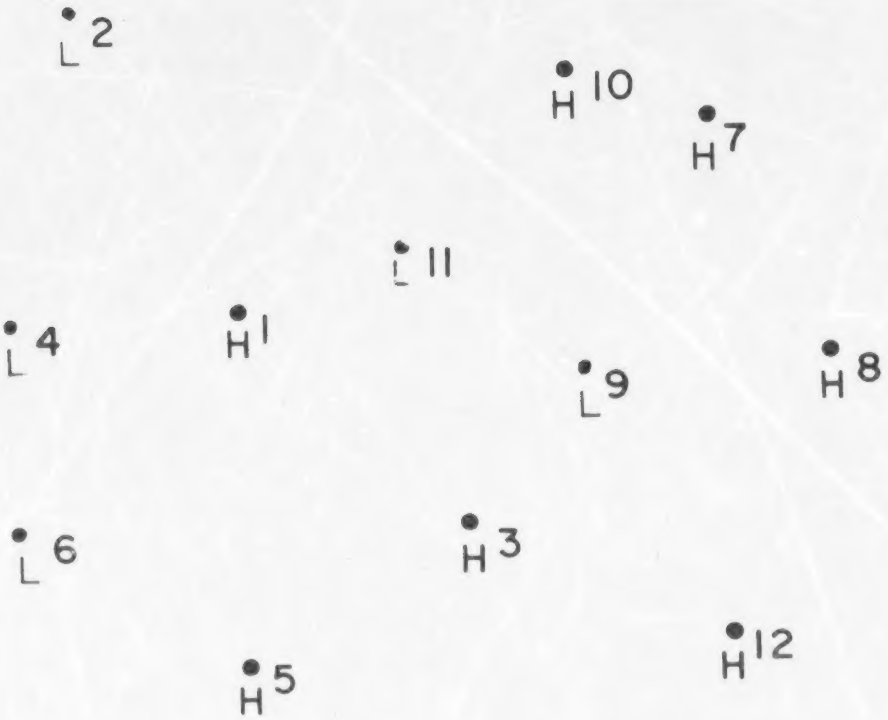


SUBJECTS: URBAN COUNSELORS

VARIABLE: STUDENT RANK IN CLASS
HIGH-H
LOW-L

KRUSKAL'S STRESS = 0.21150

FIG. 21.



SUBJECTS: RURAL COUNSELORS

VARIABLE: STUDENT RANK IN CLASS

HIGH - H

LOW - L

KRUSKAL'S STRESS = 0.19820

Research Question 6

What is the effectiveness of high school guidance counselors regarding the career choice of women who enter the profession of medicine?

It will be impossible to make any but the most tentative conclusions with regard to the effectiveness of the high school guidance counselor on the career choice of women who choose to enter the profession of medicine for several reasons. This was not the primary concern of the research conducted and emerged as an important consideration during the course of the study. Therefore, few questions related specifically to this area. In addition, the two populations of (1) guidance counselors in Western Pennsylvania and (2) women medical students at the University of Pittsburgh were not related to each other. Therefore, the answers given by the women medical students cannot be applied to the guidance counselors except by a tenuous inference. Finally, effectiveness is an extremely difficult quality to judge and any conclusions reached regarding effectiveness should be recognized as being subject to a variety of factors and considerations.

The following questions from guidance counselor Questionnaire II were asked the counselors to determine the answer to this research question:

1. Of the students with whom you meet, how often do you counsel them on their choice of career? a. less than three times, b. three to six times, c. more than six times

2. Please estimate how much time you spend on the following functions of your job. Use the notations:

   1. Most of time
   2. Some time
   3. No time

   ____Counseling individual students on personal problems

   ____Establishing and maintaining staff relations

   ____Establishing and maintaining community relations

   ____Promoting general school program

   ____Testing Program

   ____Maintaining student records

   ____Instruction of teachers in purpose and use of guidance system

   ____Conferring with parents

   ____Student scheduling

   ____Small group counseling

   ____College counseling

   ____Career counseling

   ____Other(s) Please list

3. Please rate your effectiveness in the following areas. Use the following notations:

   1. Low
   2. Moderate
   3. High

   ____Testing program

   ____Maintaining student records

   ____College counseling

   ____Career counseling

____Student scheduling

____Conferring with parents

____Instruction of teachers in purpose and use of guidance system

____Counseling individual students on personal problems

____Small group counseling

____Establishing and maintaining staff relations

____Promoting general school program

____Other(s) Please list

As an additional aid to answering this question, the following questions from the Women Medical Student Questionnaire I were examined:

1. Considering your choice to enter medicine, what influence did the following have on your choice:
   a. Parents
   b. Brothers and sisters
   c. Guidance Counselor
   d. Someone in the profession
   e. College adviser
   f. Premed adviser
   g. Other
2. Did you ever get direct counseling information from a high school guidance counselor about your choice of career?
3. What kind of information?
4. Were you discouraged from entering medicine by your high school guidance counselor?
5. Did anyone actively discourage you from pursuing medicine as a career? Who?

The guidance counselors were asked, "Of the students with whom you meet, how often to you counsel them on their choice of career?" with the following results:

TABLE 92

Of the Students With Whom You Meet, How Often Do You Counsel Them on Their Choice of Career?

	Group A		Group B	
Number of Times	Number	Percent	Number	Percent
Less than 3	18	27.69	9	16.67
3 - 6	40	61.54	38	70.37
More than 6	6	9.23	7	12.96
Varies	1	1.54	0	0.00
	65	100.00	54	100.00

Regarding career choice, both groups of counselors met with their students 3 - 6 times most often (40 in Group A and 38 in Group B). For the purposes of career counseling an average of 3 - 6 meetings would seem to be sufficient.

The guidance counselors were asked to estimate the amount of time spent on various functions of their job as follows:

1. Counseling individual students on personal problems
2. Establishing and maintaining staff relations
3. Establishing and maintaining community relations
4. Promoting general school program
5. Testing program
6. Maintaining student records

7. Instruction of teachers in purpose and use of guidance system
8. Conferring with parents
9. Student scheduling
10. Small group counseling
11. College counseling
12. Career counseling

The guidance counselors, on the average, devoted the least amount of time to: (1) Instruction of teachers in purpose and use of guidance system, (2) Small group counseling, and (3) Establishing and maintaining community relations. The following tables (93, 94 and 95) show the proportion of time spent by the guidance counselors on these activities:

TABLE 93

Please Estimate How Much Time You Spend on the Following Functions Of Your Job

	Group A		Group B	
	Number	Percent	Number	Percent
Instruction of Teachers in Purpose and Use of Guidance System				
Most of Time	1	1.54	1	2.00
Some Time	54	83.08	37	74.00
No Time	10	15.38	12	24.00
Total	65	100.00	50	100.00

TABLE 94

	Group A		Group B	
	Number	Percent	Number	Percent
Small Group Counseling				
Most of Time	2	3.08	5	10.00
Some Time	55	84.62	41	82.00
No Time	8	12.31	4	8.00
Total	65	100.01	50	100.00

TABLE 95

	Group A		Group B	
	Number	Percent	Number	Percent
Establishing and Maintaining Community Relations				
Most of Time	1	1.54	0	00.00
Some Time	60	92.31	43	86.00
No Time	4	6.15	7	14.00
Total	65	100.00	50	100.00

The functions: (1) Establishing and maintaining staff relations, (2) Promoting general school program, (3) Testing program, (4) Conferring with parents and (5) Record-keeping occupied only a moderate amount of time as can be seen in Tables 96, 97, 98, 99 and 100.

TABLE 96

Please Estimate How Much Time You Spend on the Following Functions Of Your Job

	Group A		Group B	
	Number	Percent	Number	Percent
Establishing and Maintaining Staff Relations				
Most of Time	4	6.15	5	10.00
Some Time	52	87.70	42	84.00
No Time	4	6.15	3	6.00
Total	60	100.00	50	100.00

TABLE 97

	Group A		Group B	
	Number	Percent	Number	Percent
Promoting General School Program				
Most of Time	6	9.23	7	14.00
Some Time	51	78.46	43	86.00
No Time	8	12.31	0	00.00
Total	65	100.00	50	100.00

TABLE 98

	Group A		Group B	
	Number	Percent	Number	Percent
Testing Program				
Most of Time	2	3.08	3	6.00
Some Time	56	86.15	46	92.00
No Time	7	10.77	1	2.00
Total	65	100.00	50	100.00

TABLE 99

	Group A		Group B	
	Number	Percent	Number	Percent
Conferring With Parents				
Most of Time	5	7.69	0	00.00
Some Time	60	92.31	50	100.00
No Time	0	00.00	0	00.00
Total	65	100.00	50	100.00

TABLE 100

	Group A		Group B	
	Number	Percent	Number	Percent
Maintaining Student Records				
Most of Time	11	16.92	4	8.00
Some Time	49	75.38	39	78.00
No Time	5	7.69	7	14.00
Total	65	99.99	50	100.00

The guidance counselors spent more time on: (1)Counseling individual students on personal problems, (2) Student scheduling, (3) College counseling and (4) Career counseling than the others as the following tables (101, 102, 103 and 104) illustrate:

TABLE 101

Please Estimate How Much Time You Spend on the Following Functions Of Your Job

	Group A		Group B	
	Number	Percent	Number	Percent
Counseling Individual Students on Personal Problems				
Most of Time	22	33.85	14	28.00
Some Time	42	64.62	34	68.00
No Time	1	1.54	2	4.00
Total	65	100.01	50	100.00

TABLE 102

	Group A		Group B	
	Number	Percent	Number	Percent
Student Scheduling				
Most of Time	26	40.00	9	18.00
Some Time	33	50.77	39	78.00
No Time	6	9.23	2	4.00
Total	65	100.00	50	100.00

TABLE 103

	Group A		Group B	
	Number	Percent	Number	Percent
College Counseling				
Most of Time	18	27.69	13	26.00
Some Time	45	69.23	34	68.00
No Time	2	3.08	3	6.00
Total	65	100.00	50	100.00

TABLE 104

	Group A		Group B	
	Number	Percent	Number	Percent
Career Counseling				
Most of Time	18	27.69	13	26.00
Some Time	47	72.31	34	68.00
No Time	0	00.00	3	6.00
Total	65	100.00	50	100.00

As can be seen both college and career counseling occupied a relatively large proportion of the counselors' time.

The guidance counselors were also asked to rate their effectiveness in these areas. The counselors, as a whole, never rated themselves as "low" in effectiveness but in the areas of: (1) Instruction of teachers in purpose and use of guidance system, (2) Establishing and maintaining community relations, (3) Small group counseling and (4) Promoting general school program the majority of them saw themselves as being only moderately effective. More of them felt they were moderately effective in the areas of (1) Testing program, (2) Establishing and maintaining staff relations and (3) Career counseling. They saw themselves as being most effective in (1) College counseling, (2) Student scheduling, (3) Record-keeping, (4) Counseling individual students on personal problems and (5) Conferring with parents. Tables 105 - 116 indicate their responses.

TABLE 105

Please Rate Your Effectiveness in the Following Areas

	Group A		Group B	
	Number	Percent	Number	Percent
Instruction of Teachers in Purpose and Use of Guidance System				
Low	16	24.62	19	35.19
Moderate	39	60.00	30	55.56
High	10	15.38	5	9.26
Total	65	100.00	54	100.00

TABLE 106

	Group A		Group B	
	Number	Percent	Number	Percent
Establishing and Maintaining Community Relations				
Low	12	18.46	17	31.48
Moderate	37	56.92	25	46.30
High	16	24.62	12	22.22
Total	65	100.00	54	100.00

TABLE 107

	Group A		Group B	
	Number	Percent	Number	Percent
Small Group Counseling				
Low	14	21.88	12	22.22
Moderate	35	54.69	27	50.00
High	14	23.44	15	27.78
Total	64	100.01	54	100.00

TABLE 108

	Group A		Group B	
	Number	Percent	Number	Percent
Promoting General School Program				
Low	11	16.92	7	12.96
Moderate	31	47.69	28	51.85
High	23	35.38	19	35.19
Total	65	99.99	54	100.00

TABLE 109

	Group A		Group B	
	Number	Percent	Number	Percent
Testing Program				
Low	7	10.77	4	7.41
Moderate	43	66.15	26	48.15
High	15	23.08	24	44.44
Total	65	100.00	54	100.00

TABLE 110

	Group A		Group B	
	Number	Percent	Number	Percent
Establishing and Maintaining Staff Relations				
Low	6	9.23	3	5.56
Moderate	35	53.85	32	59.26
High	24	36.92	19	35.19
Total	65	100.00	54	100.01

TABLE 111

	Group A		Group B	
	Number	Percent	Number	Percent
Career Counseling				
Low	1	1.56	2	3.70
Moderate	35	54.69	28	51.85
High	28	43.75	24	44.44
Total	64	100.00	54	99.99

TABLE 112

	Group A		Group B	
	Number	Percent	Number	Percent
College Counseling				
Low	2	3.08	0	00.00
Moderate	11	16.92	20	37.04
High	52	80.00	34	62.96
Total	65	100.00	54	100.00

TABLE 113

	Group A		Group B	
	Number	Percent	Number	Percent
Student Scheduling				
Low	4	6.15	1	1.85
Moderate	14	21.54	14	25.93
High	47	72.31	39	72.22
Total	65	100.00	54	100.00

TABLE 114

	Group A		Group B	
	Number	Percent	Number	Percent
Maintaining Student Records				
Low	4	6.15	5	9.26
Moderate	21	32.31	16	29.63
High	40	61.54	33	61.11
Total	65	100.00	54	100.00

TABLE 115

	Group A		Group B	
	Number	Percent	Number	Percent
Counseling Individual Students on Personal Problems				
Low	0	00.00	2	3.70
Moderate	28	43.08	27	50.00
High	37	56.92	25	46.30
Total	65	100.00	54	100.00

TABLE 116

	Group A		Group B	
	Number	Percent	Number	Percent
Conferring With Parents				
Low	0	00.00	3	5.56
Moderate	21	32.31	21	38.89
High	44	67.69	30	55.56
Total	65	100.00	54	100.01

Although the guidance counselors spent much of their time on both college and career counseling, they thought they were substantially more effective in college counseling. This is reasonable when it is considered that, for many students, college is the step immediately beyond high school. Many students do not make career decisions until they have completed high school.

However, almost half of the women medical students interviewed at the University of Pittsburgh had decided to enter medicine either before or during high school and this decision, in general, was made independent of consultation with the guidance counselor.

The women medical students were given a list of six categories of persons and asked to discuss the influence each had, if any, on their decision to enter medicine. As Table 117 reveals, the guidance counselors were rated lowest in importance:

TABLE 117

Considering Your Choice To Enter Medicine, Did the Following Have An Influence On Your Choice?

Person	Number Responding "Yes"
Parents	30
Someone in the Profession	23
Premedical Adviser	22
College Adviser	19
Siblings	11
Guidance Counselor	5
Other	23

Although 40 percent (16) of the women medical students had received some type of career counseling from the high school guidance counselor, this counseling was rarely related to medicine as Table 41 shows:

TABLE 41

What Kind of Information?

Information	Number	Percent
Choice of College	7	43.75
Career Information	5	31.25
Negative Regarding Medicine	2	6.25
Courses Necessary for Pre-Medicine	1	12.50
General	1	6.25
Total	16	100.00

In addition, only one of the two students discouraged from entering medicine by the high school guidance counselor thought the discouragement was active as the following tables (118, 45, 119) reveal:

TABLE 118

Were You Ever Discouraged From Entering Medicine By Your High School Guidance Counselor

	Number	Percent
Yes	2	5.00
No	38	95.00
Total	40	100.00

TABLE 45

Did Anyone Actively Discourage You From Pursuing Medicine As a Career?

	Number	Percent
Yes	19	47.50
No	20	50.00
Maybe	1	2.50
Total	40	100.00

TABLE 119

Who?

Person(s)	Number
College/Premedical Adviser	6
Parents	6
Male Doctors	4
Female Doctors	3
Relatives	4
Professionals	3
Guidance Counselor	1
Nurses	1
Miscellaneous	5

With regard to the women medical students interviewed at the University of Pittsburgh, the guidance counselor was of little importance in their career choice. The literature substantiates this as the following examples will illustrate. A 1971 study of 1424 students showed that the majority had received no help from the counselor (Jenkins, 1971). In a survey of incoming freshmen at the University of Maine, the perceived source of influence on choice of major was seen by the students as being themselves in 63 percent of the cases. Although other individuals were also mentioned, the high school guidance counselor was not (E. Johnson, 1969).

A number of reasons for the guidance counselors' lack of influence regarding the career choice of these women in medicine may exist. One possibility is the lack of knowledge exhibited by the guidance counselor of the requirements of admission to medical school and innovations in medical education. This data simply confirms Lopate (1968) that high school guidance counselors have little influence on womens' career choices.

CHAPTER 5

SUMMARY AND CONCLUSIONS

CHAPTER V

Summary and Conclusions

General Summary

This study sought to determine the attitudes of guidance counselors in Western Pennsylvania toward the entrance of women into the profession of medicine. In order to answer this broad question two research methods were employed. The guidance counselors were given a paired comparisons task, i.e., they were asked to make 66 choices among 12 high school students to determine whom they felt would be most successful in medical school. Their answers were subjected to Smallest Space Analysis, one of a number of data analytic techniques known under the general rubric of multidimensional scaling. To supplement this data, both guidance counselors in Western Pennsylvania and women medical students at the University of Pittsburgh were interviewed and their answers analyzed. The data from these two techniques were utilized to answer the following research questions.

Research Question 1: "What is the nature of the attitudes of guidance counselors in Western Pennsylvania high schools toward women entering the profession of medicine?"

Both the paired comparisons and the data from the questionnaires were used to answer this question. The configuration achieved by the Guttman-Lingoes MINISSA program demonstrated that the guidance counselors exhibited no observable differences in their attitudes toward women and men entering the profession of medicine. No clustering of male and female high school students was evident. The only criterion on which grouping was observed was that of Rank in class, where those of high Rank were clearly separated from those of low Rank. Based on this observation, it was decided that Rank was probably the criterion most often chosen by the guidance counselors in this study to predict success in medical school. The conclusion that guidance counselors in this study do not have different attitudes toward women and men entering the profession of medicine was supported by the data generated from the questionnaires. The vast majority of the guidance counselors thought women could pursue a career in medicine as successfully as a man. When rating items important for recommending a student to a college or university, the sex of the student was listed as quite unimportant. A minority did think women would be more successful in some areas of specialization than in others and that women and men would be more suited to different fields in other vocational areas. However, the vast majority of the guidance counselors said they would encourage women to enter the profession of medicine. Further support of the lack of a negative attitude toward women entering medicine was given by the women medical students, very few of whom indicated that their high school guidance counselor had discouraged them from entering medicine. Thus, the data gathered in this study supports the contention that guidance counselors in Western Pennsylvania at least held the same attitudes toward both women and men entering the profession of medicine.

Research Question 2: "What is the extent of the knowledge of guidance counselors in Western Pennsylvania high schools of problems which face women in the admissions procedure to medical school and the current attitudes of admissions committees toward acceptance of women to medical school?"

A large majority of guidance counselors in Western Pennsylvania believed that medical schools have a quota system which works to the advantage of women and minority groups. The guidance counselors displayed little detailed knowledge of admissions procedures and also a lack of knowledge of the problems faced by women applying to medical school (as reported by the women medical students who were interviewed). While the guidance counselors felt medical education had changed significantly in terms of acceptance of women and minority groups, they indicated nothing specific to support their assertions.

Research Question 3: "What is the extent of the knowledge of guidance counselors in Western Pennsylvania high schools of the problems which face women medical students during their years as a medical student?"

In this area it also became apparent the guidance counselors were not very knowledgeable about the problems of women medical students. The problems as stated by the women medical students varied from those considered important by the guidance counselors. For example, the guidance counselors saw male acceptance/bias and marriage/pregnancy as more important while the students gave more importance to problems of an individual personal or social nature.

Research Question 4: "What are the perceptions of guidance counselors in Western Pennsylvania high schools of the requirements for students entering medical school and the proper preparation for entrance into medical school?"

This question demonstrated that this population of guidance counselors had only general knowledge of the academic requirements for entrance into medical school, but little specific knowledge. The majority of the guidance counselors considered themselves moderately or minimally informed regarding innovations in medical education and in some cases evidenced concern about their lack of knowledge.

Research Question 5: "Does the personal background of the guidance counselor make a difference in the overall response to the issues surveyed?"

To answer this, both methods were employed, as in Research Question 1. The guidance counselor population was divided according to their Sex, Age, Years as a guidance counselor and Size of teaching town. Their answers to the task of selecting students who would be most successful in medical school were reanalyzed by the Guttman-Lingoes MINISSA program. There was no difference in the attitudes of the guidance counselors towards women in medicine as a function of these variables. The only criterion on the student profile in which clustering was evident was Rank. The use of the criterion of Rank as a basis for decision-making was most apparent with women guidance counselors, those over 40 years of age, those who had been serving in that capacity for less than 15 years and those from Urban areas. The data obtained from the questionnaires tentatively supported the conclusion of the paired comparisons task that the guidance counselors did not view women and men entering medicine with different attitudes.

Research Question 6: "What is the effectiveness of the high school guidance counselor on the career choice of women who choose to enter the profession of medicine?"

When asked to rate their effectiveness in the various functions of their job, the guidance counselors rated themselves as being moderately effective in career counseling and highly effective in college counseling.

The women medical students did not view their high school guidance counselors as being very important in their decision to enter medicine.

Conclusions

One conclusion reached by this study is that the sex of a potential applicant to medical school (at the high school level) is not a significant variable in the perceptions of the high school guidance counselors when taken with other more obvious academic considerations. One should qualify the above conclusion with a number of observations: (1) The simulated decision-making task (paired comparisons) by its very nature would tend to force individuals to make their decisions in the simplest way possible using the most obvious variable. Thus as an overt variable used for decision-making sex seems to be ruled out, i.e., given two equally qualified and motivated individuals, when asked to predict their success, the guidance counselors will not necessarily favor the man over the woman. (2) It would be unwise to assume that sex plays no part in the counseling process, however; even though it may be indirect, it may nonetheless have some importance. For example, in some instances they indicated the notion that women and minorities might be given preferential treatment by admissions committees. This might suggest that guidance counselors generally are responsive to current concerns expressed by minority groups and women asking for more representation in the professions. They certainly are aware, at least, of this change in the social climate. It would be difficult to assume that this has had no impact on their behavior, though what the practical effects of this has been, it is not possible to say at this time.

The guidance counselors do admit to a limited knowledge of admissions procedures and the problems of women medical students. Due to that limited knowledge one could infer that help given by guidance counselors to women contemplating a career in medicine would be minimal in these regards.

Carol Lopate has indicated that of the many factors which influence an individual in her career decisions, the guidance counselor is one of the least influential. The data from this study supports that conclusion. But we note that guidance counselors do not perceive themselves as playing an "active" role in the students' decision-making process; rather, they would "facilitate" it by providing information or playing a "passive" role at this point by guiding them to college or trade school. Also, the general perception of guidance counselors seems to be that career decisions are not made until late in college, whereas over 50 percent of the women we interviewed made their decision before or during high school. If we can generalize their early decision-making to other groups of women, we might conclude that this misperception on the part of the guidance counselors is functioning to make them serve a less active role than they might otherwise legitimately undertake.

Before faulting them for this, however, some aspects of their profession need to be noted. The role they have accepted for themselves seems to fit realistically the situation in which many find themselves. Their many and varied other activities such as scheduling and other administrative functions simply preclude an extensive active role in counseling, not to mention the number of students involved.

Recommendations

Some limitations of this study imply certain other studies which may be of benefit.

(1) One concern is the number of women who have been and are being directed into nursing or other traditional occupations for women because

it is a socially accepted female role. This is a major concern and knowledge of it could be of great help in the counseling process.

(2) It is obvious that the factors which influence an individual to pursue a career are more complex than the rather simplistic approach this study takes could tend to imply. Other studies should attempt to take some of these other factors into account and to identify areas where and when women might most profitably be counseled.

(3) The indication that women medical students have often made career decisions earlier than the guidance counselors believe might indicate a need for the guidance counselors to be more alert to this in their counseling, especially as we have no idea of how many others may have made the same type of decision, but for one reason or another have abandoned the pursuit of medicine.

(4) We would definitely recommend that by means of publications and/or seminars guidance counselors learn the facts regarding medical school admissions and the problems of women being admitted, their problems while in medical school and their problems establishing themselves professionally. This information coupled with a better awareness of when and how career decisions are made should greatly increase their potential for being a positive influence on women anticipating a career in medicine.

APPENDIX A

QUESTIONNAIRE I

MEDICAL STUDENT QUESTIONNAIRE

TABLE A-1

Age of Medical Students

Age	Number	Percent
21	3	7.50
22	13	32.50
23	8	20.00
24	10	25.00
25	3	7.50
26	2	5.00
27	0	00.00
28	0	00.00
29	1	2.50
Total	40	100.00

TABLE A-2

Occupation of Parents

Occupation	Father		Mother	
	Number	Percent	Number	Percent
Professional	19	47.50	13	32.50
Business/Managerial	8	20.00	1	2.50
Skilled	8	20.00	5	12.50
Semi-Skilled	1	2.50	1	2.50
Unskilled	0	00.00	0	00.00
Sales	2	5.00	1	2.50
Housewife	0	00.00	18	45.00
Government	1	2.50	0	00.00
Retired	1	2.50	0	00.00
Student	0	00.00	1	2.50
Total	40	100.00	40	100.00

TABLE A-3

Education of Parents

Education	Father		Mother	
	Number	Percent	Number	Percent
Less than High School	2	5.00	1	2.50
High School	9	22.50	17	42.50
Some College	4	10.00	2	5.00
College Degree	10	25.00	9	22.50
Advanced/Prof. Degree	13	32.50	8	20.00
RN	0	00.00	2	5.00
Other	2	5.00	1	2.50
Total	40	100.00	40	100.00

TABLE A-4

When You Were A Senior in High School, Had You Decided to Enter the Field of Medicine?

	Number	Percent
Yes	19	47.50
No	21	52.50
Total	40	100.00

TABLE A-5

When Did You Decide to Enter the Field of Medicine?

	Number	Percent
Before High School	10	25.00
High School	9	22.50
College	19	47.50
Other	2	5.00
After Accepted at Medical School - 1		
Jr. Year Diploma School of Nursing - 1		
Total	40	100.00

TABLE A-6

Did You Consider Careers Other Than Medicine

	Number	Percent
Yes	33	82.50
No	7	17.50
Total	40	100.00

TABLE A-7

If So, What Were They?

Career	Number
Sciences	12
Teaching	8
Psychology	7
Fine Arts	7
Research	5
Journalism	3
Nursing	2
Other Professions	2
Miscellaneous	3

TABLE A-8

Why Did You Choose Medicine?

Reason	Number
Personal	16
Interest in Science	13
Interest in People	12
Altruism	11
Interesting/Challenging	10
Experience - Hospital/Sick People	10
Practical	5
Miscellaneous	2

TABLE A-9

What Personal Characteristics of Yours Do You Feel Are Responsible For Your Interest in Medicine?

Characteristic	Number
Interest in People	14
Integrity	11
Intelligence	10
Compassion/Understanding	9
Persistence	8
Responsibility/Independence	6
Motivation/Ambition	6
Hard Worker	5
Altruism	3
Miscellaneous Personal Characteristics	23

TABLE A-10

Are You Pleased With Your Choice of Medicine as a Career?

	Number	Percent
Yes	36	90.00
No	0	00.00
Mixed	2	5.00
Can't Say	2	5.00
Total	40	100.00

TABLE A-11

Why Or Why Not?

Reason	Number
Self-Satisfaction	16
Practical Reasons	10
People/Patient Contact	8
Academic Reasons	6
Interest/Challenge/Stimulating	5
Variety	5
Miscellaneous	6

TABLE A-12

What Extracurricular Activities Did You Participate In In High School?

Extracurricular Activity	Number
Music	19
Sports	15
National Honor Society	15
Miscellaneous Clubs/Committees	14
Science Clubs	10
Newspaper	10
Yearbook	8
Student Government	8
Dramatics	7
Debating	6
Cheerleader	4
Job	4
Church Activities	4
Hospital Work	3
Health Careers/Clubs	2
None	1
Miscellaneous	13

TABLE A-13

What Were Your Most Important Extracurricular Activities?

Extracurricular Activity	Number
Music	12
Newspaper	5
Debating	5
Miscellaneous Clubs	5
Sports	3
Church Activities	2
Job	2
Dramatics	2
Miscellaneous	3

TABLE A-14

Was Your Most Important Focus on Academics or Did Extracurricular Activities Play A Significant Part in Your High School Life?

Focus	Number	Percent
Academics	24	60.00
Extracurricular	2	5.00
Both	13	32.50
Neither	1	2.50
Total	40	100.00

TABLE A-15

What Do You Perceive To Be the Most Important Courses You Took In High School?

Course	Number
Sciences	30
English	14
Math	12
Languages	7
History	7
Fine Arts/Humanities	3
Gym	1
None	1

TABLE A-16

Did You Take Additional Courses Beyond Those Required in Math?

	Number	Percent
Yes	30	75.00
No	10	25.00
Total	40	100.00

TABLE A-17

Did You Take Additional Courses Beyond Those Required in Science?

	Number	Percent
Yes	31	77.50
No	9	22.50
Total	40	100.00

TABLE A-18

How Important Do You Think the Following Were in Gaining Admission to Medical School: Very Important, Important, Not Important, Not Important At All?

	Very Important		Important	
	Number	Percent	Number	Percent
Science Grades	24	60.00	10	25.00
Math Grades	10	25.00	18	45.00
Percentile Rank in Class	15	37.50	14	35.00
CEEB Verbal Score	3	7.50	16	40.00
CEEB Math Score	2	5.00	21	52.50

	Not Important		Not Important At All	
	Number	Percent	Number	Percent
Science Grades	4	10.00	2	5.00
Math Grades	8	20.00	4	10.00
Percentile Rank in Class	4	10.00	7	17.50
CEEB Verbal Score	16	40.00	5	12.50
CEEB Math Score	13	32.50	4	10.00

TABLE A-19

Did You Ever Get Direct Counseling Information From A High School Guidance Counselor About Your Choice of Career?

	Number	Percent
Yes	16	40.00
No	24	60.00
Total	40	100.00

TABLE A-20

What Kind of Information?

Information	Number	Percent
Choice of College	7	43.75
Career Information	5	31.25
Negative Regarding Medicine	2	6.25
Courses Necessary for Pre-Medicine	1	12.50
General	1	6.25
Total	16	100.00

TABLE A-21

Were You Ever Discouraged From Entering Medicine By Your High School Guidance Counselor

	Number	Percent
Yes	2	5.00
No	38	95.00
Total	40	100.00

TABLE A-22

Did You Ever Have An Experience Where A Guidance Counselor Suggested Becoming a Nurse Rather Than Becoming a Physician?

	Number	Percent
Yes	2	5.00
No	38	95.00
Total	40	100.00

TABLE A-23

Based On Your Experience Do You Think a Guidance Counselor Would Tend To Be More Cautious About a Young Woman Applying For Medical School Than a Young Man Applying For Medical School?

	Number	Percent
Yes	22	55.00
No	9	22.50
Varies	4	10.00
Don't Know	5	12.50
Total	40	100.00

TABLE A-24

Why Or Why Not?

Why	Number	Percent
Traditional Views/Biases	14	63.64
Family/Career Conflict	3	13.64
Necessity to be Exceptional Student	1	4.55
Emphasis on College	1	4.55
Women Need an Exceptional Commitment	1	4.55
Counselor Not Qualified to Counsel Women	1	4.55
Personal Experience	1	4.55
Total	22	100.03

Why Not	Number	Percent
Ability Important	3	33.33
Personal Experience	3	33.33
Changes in Thinking	1	11.11
Qualifications of Woman Student Important	1	11.11
Individual Treatment	1	11.11
Total	9	99.99

TABLE A-25

Did You Think of Not Entering Medicine Because You Are A Woman?

	Number	Percent
Yes	8	20.00
No	32	80.00
	40	100.00

TABLE A-26

Did You Think You Had To Be More Qualified Than a Man In Order To Be Accepted Into Medical School?

	Number	Percent
Yes	26	65.00
No	12	30.00
Uncertain	2	5.00
Total	40	100.00

TABLE A-27

Considering Your Choice To Enter Medicine, Did the Following Have An Influence On Your Choice?

Person	Number Responding "Yes"
Parents	30
Someone in the Profession	23
Premedical Adviser	22
College Adviser	19
Siblings	11
Guidance Counselor	5
Other	23

TABLE A-28

Do You View Your Mother As Traditional Or Nontraditional?

	Number	Percent
Traditional	19	47.50
Nontraditional	12	30.00
Mixture	8	20.00
No Answer	1	2.50
Total	40	100.00

TABLE A-29

Do You View Yourself As Traditional Or Nontraditional?
(Not Asked To All Students)

	Number	Percent
Traditional	3	10.71
Nontraditional	14	50.00
Mixture	10	35.71
Don't Know	1	3.57
Total	28	99.99

TABLE A-30

How Did Your Father Influence You, Directly Or Indirectly, In Your Career Choice?

Influence	Number
Supportive	13
Indirect	9
None	6
Negative	5
Encouraged Achievement	4
Suggested Medicine	3
Was A Doctor	2
Was Interested in Science	2

TABLE A-31

Did Anyone Actively Discourage You From Pursuing Medicine As a Career?

	Number	Percent
Yes	19	47.50
No	20	50.00
Maybe	1	2.50
Total	40	100.00

TABLE A-32

Who?

Person(s)	Number
College/Premedical Adviser	6
Parents	6
Male Doctors	4
Female Doctors	3
Relatives	4
Professionals	3
Guidance Counselor	1
Nurses	1
Miscellaneous	5

TABLE A-33

What Were His Or Her Reasons?

Reason	Number
Medicine Not a Woman's Field	8
Women Belong in the Home	4
Academic/Hard Work	4
Wanted Her to Enter Another Field	2
Questioned Motives	2
Miscellaneous	1

TABLE A-34

During Your Premed Program How Would You Best Describe the Attitude Of Your Peers Toward Your Going Into Medicine?

Attitude	Number	Percent
Positive	18	45.00
Neutral	11	27.50
Negative	4	10.00
Competitive	2	5.00
Mixed	5	12.50
Total	40	100.00

TABLE A-35

Did You Experience Any Difficulties When Applying to Medical School?

	Number	Percent
Yes	15	37.50
No	25	62.50
Total	40	100.00

TABLE A-36

If So, What Were They?

Difficulty	Number	Percent
Low Grades/Boards	3	20.00
Late in Med. Boards/ Application	2	13.33
Women "Unreliable"	2	13.33
Not Accepted	2	13.33
Bias Towards Women	2	13.33
Couldn't Get Interview	1	6.67
Didn't Know Where to Apply	1	6.67
Didn't Know if Accepted	1	6.67
Money and Where to Apply	1	6.67
	15	100.00

TABLE A-37

Specifically, Were You Discouraged By the Admissions Committee?

	Number	Percent
Yes	12	30.00
No	27	67.50
Maybe	1	2.50
Total	40	100.00

TABLE A-38

If So, For What Reason(s)?

Reason	Number
Problem of Woman and Career	8
Suggested Another Field	2
Low Grades	1
Hard Interview	1
Considered "Unreliable"	1

TABLE A-39

Do You Think You Were Discouraged Because You Are A Woman?

	Number	Percent
Yes	10	25.00
No	27	67.50
Maybe	1	2.50
Don't Know	1	2.50
To Some Extent	1	2.50
Total	40	100.00

TABLE A-40

Why Or Why Not?

Reason	Number
Women High Risk	2
Women Don't Practice as Much as Men	2
General Problems Regarding Women	2

TABLE A-41

Do You Plan to Model Your Career After Any Particular Individual?

	Number	Percent
Yes	5	12.50
No	33	82.50
Uncertain	2	5.00
Total	40	100.00

TABLE A-42

What Problems Do You as a Medical Student Face (Academic, Personal, Financial, Social, Marriage or Marriage Plans, Pregnancy)?

Problem	Number
Personal	21
Social	21
Financial	17
Academic	11
Marriage, Marriage Plans, Pregnancy	13
Other	8

TABLE A-43

Do You Consider Marriage and Pregnancy To Be More Of a Problem For You Than For a Male Medical Student?

	Number	Percent
Yes	32	80.00
No	2	5.00
Pregnancy, not Marriage	3	7.50
Maybe	3	7.50
Total	40	100.00

TABLE A-44

Why Or Why Not?

Reason	Number
Woman's Responsibilities of Home and Family	33
Woman Doctor Not Necessarily a "Good Catch"	2
Financial	2
Pull of Interests	1
Different Expectations	1
Wouldn't Marry Someone Would Have Problem With	1

TABLE A-45

What Is Your Major Problem? (Not Answered by all Students)

Problem	Number
Personal	9
Financial	5
Time	4
Fiance/Boyfriend	4
Social	3
Academic	2
Miscellaneous	2

TABLE A-46

Do You Think That The Fact You Are a Woman Makes Medical School More Difficult For You Than For The Male Students?

	Number	Percent
Yes	11	27.50
No	20	50.00
Maybe	9	22.50
Total	40	100.00

TABLE A-47

Why Or Why Not?

Reason	Number
Same Problems and Demands For Both	13
Social/Personal Problems	12
Bias	6
Marriage	4
Role-Playing	1
More Difficult to Find Self-Satisfaction	1
Not Married - Problems the Same	1
Privileges for Women	1

TABLE A-48

How Would You Describe Your Relationships With the Men Students?

Relationship	Number	Percent
Good	15	37.50
Varies	11	27.50
Very Good	7	17.50
Superficial	4	10.00
Negative	2	5.00
Excellent	1	2.50
Total	40	100.00

TABLE A-49

How Would You Describe Your Relationships With the Women Students?

Relationship	Number	Percent
Good	17	42.50
Varies	11	27.50
Very Good	7	17.50
Excellent	2	5.00
Neutral	2	5.00
Negative	1	2.50
Total	40	100.00

TABLE A-50

How Would You Describe Your Relationships With the Faculty?

Relationship	Number	Percent
Good	17	42.50
Mixed	6	15.00
Very Good	4	10.00
Fair	4	10.00
Excellent	3	7.50
Distant	3	7.50
Don't Know	2	5.00
Neutral	1	2.50
Total	40	100.00

TABLE A-51

How Do You Feel That the Fact You Are A Woman Affects Your Relationship With the Faculty?

Effect	Number	Percent
Doesn't Matter	16	40.00
Variable	5	12.50
Bias	5	12.50
Minimal/Some Effect	5	12.50
Treat Differently	4	10.00
See As Woman First	3	7.50
Don't Know	2	5.00
Total	40	100.00

TABLE A-52

Have You Determined Your Specialty?

	Number	Percent
Yes	8	20.00
No	21	52.50
Maybe	5	12.50
One of Several	6	15.00
Total	40	100.00

TABLE A-53

If So, What Is It?

Specialty	Number
Internal Medicine	7
Pediatrics	7
Psychiatry	2
Surgery	2
Family Practice	2
Miscellaneous	5

TABLE A-54

Were You Discouraged From Any Specialty Because You Are a Woman?

	Number	Percent
Yes	23	57.50
No	14	35.00
Maybe	3	7.50
Total	40	100.00

TABLE A-55

What Specialty Were You Discouraged From Entering?

Specialty	Number
Surgery	18

TABLE A-56

What Are Your Plans For Graduate Training?

Plans	Number
Residency	28
Uncertain/None	9
Internship	8
Practice	5
Marriage	4
Miscellaneous Academic	4
Miscellaneous	3

TABLE A-57

Have You a Preference of Hospitals For Your Internship or Residency?

	Number	Percent
Yes	23	57.50
No	16	40.00
Somewhat	1	2.50
Total	40	100.00

TABLE A-58

If So, What Determined Your Choice?

Reason	Number
Academic Considerations	8
Experience/Staff	7
To Be With Husband	5
Miscellaneous	5

TABLE A-59

Have You Been Forced To Defer Any Personal Plans Because of Your Medical Career?

	Number	Percent
Yes	13	32.50
No	27	67.50
Total	40	100.00

APPENDIX B

QUESTIONNAIRE II

GUIDANCE COUNSELOR BIOGRAPHICAL QUESTIONNAIRE

TABLE B-1

Age of the Guidance Counselors

	Group A		Group B		Total	
Age	Number	Percent	Number	Percent	Number	Percent
21 - 30	6	9.23	3	5.56	9	7.56
31 - 40	12	18.46	15	27.78	27	22.69
41 - 50	38	58.46	22	40.74	60	50.42
Over 50	9	13.85	13	24.07	22	18.49
No Answer	0	00.00	1	1.85	1	.84
Total	65	100.00	54	100.00	119	100.00

TABLE B-2

Sex of the Guidance Counselors

Sex	Group A		Group B		Total	
	Number	Percent	Number	Percent	Number	Percent
Male	42	64.62	38	70.37	80	67.23
Female	23	35.38	16	29.63	39	32.77
Total	65	100.00	54	100.00	119	100.00

TABLE B-3

Marital Status of the Guidance Counselors

Marital Status	Group A		Group B		Total	
	Number	Percent	Number	Percent	Number	Percent
Single	9	13.85	9	16.67	18	15.13
Married	52	80.00	44	81.48	96	80.67
Separated	0	00.00	0	00.00	0	00.00
Divorced	2	3.08	1	1.85	3	2.52
Widowed	2	3.08	0	00.00	2	1.68
Total	65	100.01	54	100.00	119	100.00

TABLE B-4

Race of the Guidance Counselors

	Group A		Group B		Total	
Race	Number	Percent	Number	Percent	Number	Percent
Caucasian	61	93.85	54	100.00	115	96.64
Black	2	3.08	0	00.00	2	1.68
Asian	1	1.54	0	00.00	1	.84
No Answer	1	1.54	0	00.00	1	.84
Total	65	100.01	54	100.00	119	100.00

TABLE B-5

College Major of the Guidance Counselor

College Major	Group A Number	Group B Number	Total Number
Social Sciences	17	11	28
Science	13	6	19
Education	10	9	19
English	13	4	17
Mathematics	7	12	19
Health/Physical Education	5	4	9
Geography	4	0	4
Language	6	3	9
History	7	3	10
Guidance and Counseling	8	11	19
Industrial Arts	1	2	3
Business	1	6	7
Nursing	0	1	1
Economics	0	1	1

TABLE B-6

Degrees of the Guidance Counselor

Degree	Group A Number	Group B Number	Total Number
Bachelor of Arts	6	4	10
Bachelor of Science	47	38	85
Master of Arts	6	7	13
Master of Science	60	44	104
PhD (Expected)	1	0	1

TABLE B-7

Currently Attending College?

	Group A		Group B		Total	
	Number	Percent	Number	Percent	Number	Percent
Yes	11	16.92	7	12.96	18	15.13
No	54	83.08	47	87.04	101	84.87
Total	65	100.00	54	100.00	119	100.00

TABLE B-8

What Subject Area?

Subject Area	Group A Number	Group B Number	Total Number
Learning Disabilities	1	0	1
Director Guidance	1	0	1
Higher Education	1	0	1
Reading	1	0	1
Decision Making	1	0	1
Education	1	1	2
Secondary Education	1	0	1
Counseling	3	3	6
Psychology	0	2	2
Administration	1	1	2
Total	11	7	18

TABLE B-9

Other Work Experience of the Guidance Counselor

Work Experience	Group A Number	Group B Number	Total Number
Laborer	16	19	35
Teacher	14	0	14
Journalist	11	0	11
Military	11	8	19
Recreation/Sports	11	10	21
Skilled Laborer	9	4	13
Sales	9	9	18
Secretary	7	7	14
Government	6	6	12
Counselor	6	3	9
Manager	6	6	12
Waitress	4	1	5
Volunteer	3	0	3
Accountant/auditor	2	0	2
Statistics	2	0	2
Rehabilitation	2	0	2
Advertising	1	0	1
Copy Writer	1	0	1
Librarian	1	0	1
Nursing	1	0	1

Work Experience	Group A Number	Group B Number	Total Number
Model Cities	1	0	1
Vice Principal	1	0	1
Contractor	1	0	1
Coordinator	1	0	1
Draftsman	1	0	1
Case Worker	1	0	1
Interviewer	1	0	1
Researcher	1	0	1
Chemistry Lab	1	6	7
Mobile Park Owner	0	1	1
Farmer	0	2	2
Executive	1	0	1

TABLE B-10

Years of Teaching Experience

Years	Group A Number	Group B Number	Total Number
0 - 5	17	11	28
6 - 10	19	11	30
11 - 15	6	11	17
16 - 20	14	8	22
21 - 25	5	7	12
Over 25	3	6	9
Yes	1	0	1
Total	65	54	119

TABLE B-11

In What Subject Area?

Subject Area	Group A Number	Group B Number	Total Number
English	14	10	24
Science	14	5	19
Social Science	14	16	30
History	10	5	15
Mathematics	9	13	22
Health/Physical Education	7	3	10
Language	5	3	8
Business	3	5	8
Industrial Arts	2	1	3
American Government	2	0	2
Elementary Education	2	0	2
Junior High	1	0	1
Journalism	0	1	1
Economics	0	1	1
Nursing	0	1	1
Agriculture	0	1	1

TABLE B-12

Currently Teaching?

	Group A Number	Group B Number	Total Number
Yes	3	1	4
No	62	53	115
Total	65	54	119

How Much of Time?

Group A Number	Group B Number
1/10	1/2
.45	
2 hours/week	

TABLE B-13

Of the Students With Whom You Meet, How Often Do You Counsel Them on Their Choice of Career?

	Group A		Group B	
Number of Times	Number	Percent	Number	Percent
Less than 3	18	27.69	9	16.67
3 - 6	40	61.54	38	70.37
More than 6	6	9.23	7	12.96
Varies	1	1.54	0	0.00
	65	100.00	54	100.00

TABLE B-14

Currently Certified?

	Group A		Group B		Total	
	Number	Percent	Number	Percent	Number	Percent
Yes	65	100.00	53	98.15	118	99.16
No	0	00.00	1	1.85	1	.84
Total	65	100.00	54	100.00	119	100.00

TABLE B-15

Type of Certification

Certification	Group A Number	Group B Number	Total Number
College	3	0	3
Secondary	11	1	12
Permanent	40	37	77
Guidance & Counseling	45	20	65
Supervisory	6	4	10
Education Specialist	1	2	3

TABLE B-16

Years as a Guidance Counselor

	Group A		Group B		Total	
Years	Number	Percent	Number	Percent	Number	Percent
0 - 5	18	27.69	9	16.67	27	22.69
6 - 10	24	36.92	19	35.19	43	36.13
11 - 15	15	23.08	15	27.78	30	25.21
16 - 20	5	7.69	7	12.96	12	10.08
21 - 25	1	1.54	3	5.56	4	3.36
26 and Over	2	3.08	1	1.85	3	2.52
Total	65	100.00	54	100.01	119	99.99

TABLE B-17

Status

	Group A		Group B		Total	
Status	Number	Percent	Number	Percent	Number	Percent
Full Time	64	98.46	53	98.15	117	98.32
Half Time	1	1.54	1	1.85	2	1.68
Other	0	00.00	0	00.00	0	00.00
Total	65	100.00	54	100.00	119	100.00

TABLE B-18

Professional Organizations of the Guidance Counselors

Organization	Group A Number	Group B Number	Total Number
NEA	32	35	67
PSEA	35	42	76
PSCA	42	35	77
ACCA	46	0	45
APGA	20	15	35
ASCA	5	5	10
Pgh. Sc. Coun.	5	0	5
Phi Delta Kappa	1	1	2
Delta Kappa Gamma	1	2	3
AFT	7	0	7
PPGA	7	11	18
PACAC	13	4	17
Pa. WDC	7	4	11
Local Education Association	4	25	29
Miscellaneous	43	24	67

TABLE B-19

Type of School System

School System	Group A		Group B		Total	
	Number	Percent	Number	Percent	Number	Percent
Urban	14	21.54	5	10.00	19	16.52
Suburban	47	72.31	10	20.00	57	49.57
Small Town	4	6.15	17	34.00	21	18.26
Rural	0	00.00	18	36.00	18	15.65
Total	65	100.00	50	100.00	115	100.00

TABLE B-20

Please Estimate How Much Time You Spend on the Following Functions Of Your Job

	Group A		Group B	
	Number	Percent	Number	Percent
Counseling Individual Students on Personal Problems				
Most of Time	22	33.85	14	28.00
Some Time	42	64.62	34	68.00
No Time	1	1.54	2	4.00
Total	65	100.01	50	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Establishing and Maintaining Staff Relations				
Most of Time	4	6.15	5	10.00
Some Time	52	87.70	42	84.00
No Time	4	6.15	3	6.00
Total	60	100.00	50	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Establishing and Maintaining Community Relations				
Most of Time	1	1.54	0	00.00
Some Time	60	92.31	43	86.00
No Time	4	6.15	7	14.00
Total	65	100.00	50	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Promoting General School Program				
Most of Time	6	9.23	7	14.00
Some Time	51	78.46	43	86.00
No Time	8	12.31	0	00.00
Total	65	100.00	50	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Testing Program				
Most of Time	2	3.08	3	6.00
Some Time	56	86.15	46	92.00
No Time	7	10.77	1	2.00
Total	65	100.00	50	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Maintaining Student Records				
Most of Time	11	16.92	4	8.00
Some Time	49	75.38	39	78.00
No Time	5	7.69	7	14.00
Total	65	99.99	50	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Instruction of Teachers in Purpose and Use of Guidance System				
Most of Time	1	1.54	1	2.00
Some Time	54	83.08	37	74.00
No Time	10	15.38	12	24.00
Total	65	100.00	50	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Conferring With Parents				
Most of Time	5	7.69	0	00.00
Some Time	60	92.31	50	100.00
No Time	0	00.00	0	00.00
Total	65	100.00	50	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Student Scheduling				
Most of Time	26	40.00	9	18.00
Some Time	33	50.77	39	78.00
No Time	6	9.23	2	4.00
Total	65	100.00	50	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Small Group Counseling				
Most of Time	2	3.08	5	10.00
Some Time	55	84.62	41	82.00
No Time	8	12.31	4	8.00
Total	65	100.01	50	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
College Counseling				
Most of Time	18	27.69	13	26.00
Some Time	45	69.23	34	68.00
No Time	2	3.08	3	6.00
Total	65	100.00	50	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Career Counseling				
Most of Time	18	27.69	13	26.00
Some Time	47	72.31	34	68.00
No Time	0	00.00	3	6.00
Total	65	100.00	50	100.00

TABLE B-21

Please Rate Your Effectiveness in the Following Areas

	Group A		Group B	
	Number	Percent	Number	Percent
Testing Program				
Low	7	10.77	4	7.41
Moderate	43	66.15	26	48.15
High	15	23.08	24	44.44
Total	65	100.00	54	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Maintaining Student Records				
Low	4	6.15	5	9.26
Moderate	21	32.31	16	29.63
High	40	61.54	33	61.11
Total	65	100.00	54	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
College Counseling				
Low	2	3.08	0	00.00
Moderate	11	16.92	20	37.04
High	52	80.00	34	62.96
Total	65	100.00	54	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Career Counseling				
Low	1	1.56	2	3.70
Moderate	35	54.69	28	51.85
High	28	43.75	24	44.44
Total	64	100.00	54	99.99

	Group A		Group B	
	Number	Percent	Number	Percent
Student Scheduling				
Low	4	6.15	1	1.85
Moderate	14	21.54	14	25.93
High	47	72.31	39	72.22
Total	65	100.00	54	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Conferring With Parents				
Low	0	00.00	3	5.56
Moderate	21	32.31	21	38.89
High	44	67.69	30	55.56
Total	65	100.00	54	100.01

	Group A		Group B	
	Number	Percent	Number	Percent
Instruction of Teachers in Purpose and Use of Guidance System				
Low	16	24.62	19	35.19
Moderate	39	60.00	30	55.56
High	10	15.38	5	9.26
Total	65	100.00	54	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Counseling Individual Students on Personal Problems				
Low	0	00.00	2	3.70
Moderate	28	43.08	27	50.00
High	37	56.92	25	46.30
Total	65	100.00	54	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Establishing and Maintaining Community Relations				
Low	12	18.46	17	31.48
Moderate	37	56.92	25	46.30
High	16	24.62	12	22.22
Total	65	100.00	54	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Promoting General School Program				
Low	11	16.92	7	12.96
Moderate	31	47.69	28	51.85
High	23	35.38	19	35.19
Total	65	99.99	54	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Small Group Counseling				
Low	14	21.88	12	22.22
Moderate	35	54.69	27	50.00
High	14	23.44	15	27.78
Total	64	100.01	54	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Establishing and Maintaining Staff Relations				
Low	6	9.23	3	5.56
Moderate	35	53.85	32	59.26
High	24	36.92	19	35.19
Total	65	100.00	54	100.01

APPENDIX C

QUESTIONNAIRE III

GUIDANCE COUNSELOR INTERVIEW FORMAT

TABLE C-1

How is Your Counseling Load Chosen?

Method	Group A Number	Group B Number
Alphabetical	25	4
Rotation	10	0
Random	7	0
Single Counselor	4	11
By Grade	4	5
Voluntary	3	3
Administration	1	6
Homeroom	1	2
Other	5	9

TABLE C-2

Do You Have a School Psychologist?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	45	70.31	22	55.00
No	2	3.13	18	45.00
Intermediate Unit	17	26.56	0	00.00
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

TABLE C-3

Do You Have a School Psychometrist:

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	4	6.25	2	5.00
No	60	93.75	32	80.00
No Answer	0	00.00	6	15.00
Total	64	100.00	40	100.00

TABLE C-4

Is This Person Available on a Full-Time Basis?

	Group A Number	Group B Number
Yes	17	8
No	39	21
No Answer	8	11

TABLE C-5

What Functions Does He or She Perform?

Function	Group A Number	Group B Number
Testing	46	17
Referral	14	10
Diagnostic	10	0
Intermediate Unit	10	0
Counseling	9	2
Consultation	4	4
Evaluation	1	3
Special Education	0	3
Other	8	5

TABLE C-6

What Vocational Preference Tests do You Administer?

	Group A Number	Group B Number
By Request		
Kuder	16	2
Army Battery	6	0
OVIS	3	0
DAT	2	0
SRA	1	0
Strong	1	0
Jordan	1	0
Student Self-Awareness	1	0
California Occupational Preference Survey	0	2
Mandatory		
OVIS	11	2
Kuder	11	1
DAT	4	1
Army Battery	2	1
California Occupational Preference Survey	1	0
Strong	0	1

	Group A Number	Group B Number
Undifferentiated		
Kuder	7	25
OVIS	4	3
Army Battery	2	1
GOC	1	0
Chronicle Guidance	1	0
Vocational Games	1	0
SRA	0	1
Strong	0	3
Scholastic Testing Battery	0	1
DAT	0	1
General Interest Survey	0	1
California Occupational Preference Survey	0	1

TABLE C-7

Do You Counsel Primarily:

	Group A		Group B	
	Number	Percent	Number	Percent
White	39	60.94	20	50.00
Black	2	3.13	0	00.00
Both	23	35.94	20	50.00
No Answer	0	00.00	0	00.00
Total	64	100.01	40	100.00

TABLE C-8

Do You Counsel Primarily:

	Group A		Group B	
	Number	Percent	Number	Percent
Young Men	0	00.00	0	00.00
Young Women	0	00.00	0	00.00
Both	64	100.00	40	100.00
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

TABLE C-9

With What Type Student do You Think You are Most Effective, Those With:

	Group A		Group B	
	Number	Percent	Number	Percent
High Academic Ability	4	6.25	1	2.50
Middle Academic Ability	7	10.94	1	2.50
Low Academic Ability	3	4.69	0	00.00
Academic Ability Makes No Difference	50	78.13	35	87.50
High & Low Academic Ability	0	00.00	1	2.50
High & Middle Academic Ability	0	00.00	2	5.00
No Answer	0	00.00	0	00.00
Total	64	100.01	40	100.00

TABLE C-10

In Recommending a Student for Application to a College or University, Please Rate the Following Factors as to Their Importance to You:

1. Very important; 2. Moderately important; 3. Minimally important; 4. Not important

	Group A		Group B	
	Number	Percent	Number	Percent
QPA				
Very Important	58	90.63	29	72.50
Moderately Important	5	7.81	10	25.00
Minimally Important	1	1.56	0	00.00
Not Important	0	00.00	0	00.00
No Answer	0	00.00	1	2.50
Total	64	100.00	40	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
CEEB (SAT) Scores				
Very Important	8	12.50	4	10.00
Moderately Important	46	71.88	30	75.00
Minimally Important	10	15.63	5	12.50
Not Important	0	00.00	1	2.50
No Answer	0	00.00	0	00.00
Total	64	100.01	40	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
IQ				
Very Important	3	4.69	3	7.50
Moderately Important	33	51.56	21	52.50
Minimally Important	21	32.81	15	37.50
Not Important	7	10.94	1	2.50
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Extracurricular Activities				
Very Important	4	6.25	3	7.50
Moderately Important	30	46.88	23	57.50
Minimally Important	29	45.31	13	32.50
Not Important	1	1.56	1	2.50
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Motivation				
Very Important	53	82.81	36	90.00
Moderately Important	9	14.06	4	10.00
Minimally Important	2	3.13	0	00.00
Not Important	0	00.00	0	00.00
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Sex				
Very Important	0	00.00	0	00.00
Moderately Important	4	6.25	1	2.50
Minimally Important	5	7.81	4	10.00
Not Important	55	85.94	35	87.50
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Race				
Very Important	3	4.69	0	00.00
Moderately Important	3	4.69	0	00.00
Minimally Important	6	9.38	6	15.00
Not Important	52	81.25	34	85.00
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

TABLE C-11

Other

Factor	Group A Number	Group B Number
Family	15	1
Curriculum Chosen	11	2
Personal Choice	10	1
Financial	8	1
Goals	5	1
Other	12	6

TABLE C-12

Please Give Reasons for Your Choice

Reason	Group A Number	Group B Number
Academic Development important over long period of time	42	21
Motivation can be the deciding factor	30	23
Objective measures most valid according to colleges	8	3
Varies according to school	8	0
Other	9	9

TABLE C-13

In the Choice of a Medical Career, What Influences Do You Think Are Important to the Student?

Influence	Group A Number	Group B Number
Family	30	7
Contact with Someone in profession	29	2
Knowledge of Field	22	13
Self-Interest (Monetary Reward) (Prestige Glamour)	18	7
Interest in Science and Math	17	4
Parents	15	12
Academic Ability	9	7
People Oriented Motives	9	5
Teachers	8	1
Other People	8	0
Media	7	0
Environment	6	0
Peers and Friends	5	2
Counseling	5	1
Role Model	4	0
Cost of Medical Education	3	3
General Personal Characteristics	2	13
Other	1	4

TABLE C-14

At What Point(s) in a Student's Academic Career Do You Think Critical Choices Are Made?

Group A	Career Number	College Number	What College Number
Second or Third Grade	1	0	0
Seventh Grade	0	4	0
Eighth Grade	1	4	0
Ninth Grade	2	17	0
Tenth Grade	5	11	0
Eleventh Grade	20	22	5
Twelfth Grade	8	6	8
College	15	0	0

Varies with Individual - Many counselors replied in this manner as their first response.

TABLE C-15

Do You Think a Woman Can Pursue a Career in Medicine as Successfully As a Man?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes*	62	96.88	33	82.50
No**	2	3.13	7	17.50
No Answer	0	00.00	0	00.00
Total	64	100.01	40	100.00

TABLE C-16

Why Or Why Not? (Yes*)

	Group A Number	Group B Number
Capability, Not Sex Important Factor	34	20
With Reservations	13	6
Better Opportunities for Women	10	2
Women Have More Appropriate Characteristics	8	0
Personal Experience/ Observation	4	1
Personal Opinion	4	0
Other	4	2

TABLE C-17

Why Or Why Not (No**)

	Group A Number	Group B Number
Not as Many Opportunities for Women	1	0
Women are Different/Could be Good in Some Cases	1	0
Societal Limitations/Prejudice	0	5
Marriage/Family	0	2
More Men in Field	0	1

TABLE C-18

What Characteristics of a Woman Do You Feel Are Most Important Relative To Success in the Field of Medicine?

	Group A Number	Group B Number
Intelligence/Academic Ability	43	14
Motivation	25	2
Emotional Maturity	21	11
Understanding	17	10
Perseverance/Patience	16	18
People Oriented	16	1
Same as a Man	11	7
Dedication	11	3
Aggressive	8	1
Good Health/Stamina	7	3
Independence	5	0
Sacrifice	5	0
Ethical/Moral	4	4
Sense of Humor	3	0
Feminine Characteristics	2	2
Other	8	10

TABLE C-19

Are You Aware of Anything That Has Changed Your Attitude Toward Women Entering the Profession of Medicine?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	18	28.13	9	22.50
No	46	71.88	31	77.50
No Answer	0	00.00	0	00.00
Total	64	100.01	40	100.00

TABLE C-20

If So, What?

	Group A Number	Group B Number
Women's Movement	5	2
More Aware	4	0
Awareness of Women in Professions	3	3
Publicity/Literature	3	0
Personal Experience	2	3
Other	2	2

TABLE C-21

What Do You Consider to be the Factors Taken Into Consideration by Admissions Committees of Medical Schools in the Admission of Women Into Medical School?

Academic	Group A Number	Group B Number
Math and/or Science	35	13
Performance	25	26
Same as Man	20	4
Test Scores	13	5
Intelligence/Ability	11	2
Course Content	6	5
Different from Man	6	2
Miscellaneous Courses	4	2
Other	7	1

Personal	Group A Number	Group B Number
Emotional Maturity	30	15
Motivation	18	4
Physical Characteristics/Stamina	13	4
People Oriented	9	5
Dedication	9	1
Perseverance	8	2
Understanding	8	2
Ethical/Moral	5	4
Same as Man	5	2
Aggressive	5	0
Ability to Communicate	4	0
Marriage/Family	1	4
Different from Man	0	1
Other	24	10

Social	Group A Number	Group B Number
Organizational Activities Other Than Medical	27	8
People Oriented	17	16
Medical Activity/Volunteer	15	0
Personal Characteristics	9	5
Well-Rounded	7	1
Leadership Activity	4	0
Same as Man	3	3
Other	5	4

Other	Group A Number	Group B Number
"Pull"	2	4
Same as Man	0	3
Other	16	7

TABLE C-22

Do You Think Medical Schools Have Taken Steps Which Are More Accommodating Toward Women in Terms of Their Programs, Attitude of Faculty, Attitude of Students, Etc?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	43	67.19	16	40.00
No	4	6.25	9	22.50
Don't Know	17	26.56	15	37.50
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

TABLE C-23

If So, Please Give Examples

	Group A Number	Group B Number
Unsupported Statements	18	10
Based on Literature/Media	15	2
Specific Medical School Content	5	1
No Examples Listed	4	4
No Personal Experience	4	0
Personal Experience	4	0
Don't Know	3	0

TABLE C-24

Is It Your Opinion That Some Medical Schools, Either Officially Or Unofficially, Currently Have Quotas For Minority Group Enrollment, Including Women?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	47	73.44	36	90.00
No	6	9.38	2	5.00
Don't Know	11	17.19	2	5.00
No Answer	0	00.00	0	00.00
Total	64	100.01	40	100.00

TABLE C-25

What Would you Consider to be the Most Serious Problems Encountered by Women Medical Students?

	Group A Number	Group B Number
Male Acceptance/Prejudice	40	22
Overcoming Image of Medicine as a Male Profession	9	3
Marriage and Pregnancy	7	9
Same Problems for Both Sexes	7	1
Academic	4	0
Necessity to Prove Self/ Competition	3	3
Financial	3	1
Admission to School	0	3
Other	7	4

TABLE C-26

Please Rate the Following Problems as to
Their Importance to a Woman Medical Student:

1. Very Important; 2. Moderately Important;
3. Minimally Important; 4. Not Important

	Group A		Group B	
	Number	Percent	Number	Percent
Marriage				
Very Important	17	26.56	11	27.50
Moderately Important	21	32.81	19	47.50
Minimally Important	21	32.81	8	20.00
Not Important	5	7.81	2	5.00
No Answer	0	00.00	0	00.00
Total	64	99.99	40	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Pregnancy				
Very Important	28	43.75	19	47.50
Moderately Important	12	18.75	8	20.00
Minimally Important	16	25.00	10	25.00
Not Important	8	12.50	3	7.50
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Interaction With Male Medical Students				
Very Important	18	28.13	14	35.00
Moderately Important	23	35.94	11	27.50
Minimally Important	14	21.88	9	22.50
Not Important	9	14.06	6	15.00
No Answer	0	00.00	0	00.00
Total	64	100.01	40	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Financial				
Very Important	30	46.88	19	47.50
Moderately Important	18	28.13	15	37.50
Minimally Important	9	14.06	5	12.50
Not Important	7	10.94	1	2.50
No Answer	0	00.00	0	00.00
Total	64	100.01	40	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Faculty Bias				
Very Important	13	20.31	18	45.00
Moderately Important	23	35.94	14	35.00
Minimally Important	24	37.50	5	12.50
Not Important	4	6.25	3	7.50
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Lack of Time				
Very Important	20	31.25	6	15.00
Moderately Important	21	32.81	17	42.50
Minimally Important	15	23.44	9	22.50
Not Important	8	12.50	8	20.00
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Limited Social Life				
Very Important	3	4.69	3	7.50
Moderately Important	23	35.94	15	37.50
Minimally Important	30	46.88	16	40.00
Not Important	8	12.50	6	15.00
No Answer	0	00.00	0	00.00
Total	64	100.01	40	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Problems With Male Patients				
Very Important	6	9.38	6	15.00
Moderately Important	22	34.38	11	27.50
Minimally Important	21	32.81	17	42.50
Not Important	15	23.44	6	15.00
No Answer	0	00.00	0	00.00
Total	64	100.01	40	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Miscellaneous Personal Problems				
Very Important	5	7.81	5	12.50
Moderately Important	26	40.63	8	20.00
Minimally Important	24	37.50	24	60.00
Not Important	9	14.06	3	7.50
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

	Group A		Group B	
	Number	Percent	Number	Percent
Academic				
Very Important	35	54.69	15	37.50
Moderately Important	10	15.63	9	22.50
Minimally Important	9	14.06	9	22.50
Not Important	10	15.63	5	12.50
No Answer	0	00.00	2	5.00
Total	64	100.01	40	100.00

TABLE C-27

Do You Think Women Would Be More Successful In Some Fields of Medicine Such as Pediatrics, Rather Than in Other Fields Such as Surgery?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes*	27	42.19	10	25.00
No**	37	57.81	29	72.50
Don't Know	0	00.00	1	2.50
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

TABLE C-28

Why Or Why Not? (Yes*)

Reason	Group A Number	Group B Number
Tradition/Women's Role	15	4
Women Like Women Doctors	9	1
Nature of Women	4	1
Other	6	3

TABLE C-29

Why Or Why Not? (No**)

Reason	Group A Number	Group B Number
Capability Important and Not Sex	21	17
Individual Preference	6	6
It Doesn't Matter	4	0
Depends on Specialty	3	1
Sexual Stereotypes Not Valid	0	4
Other	2	0

TABLE C-30

How Would You Rate Yourself With Regard to Your Knowledge of Innovations in Medical Education?

	Group A		Group B	
	Number	Percent	Number	Percent
Well-Informed	2	3.13	2	5.00
Moderately Informed	30	46.88	11	27.50
Minimally Informed	30	46.88	25	62.50
Not Informed	2	3.13	2	5.00
No Answer	0	00.00	0	00.00
Total	64	100.02	40	100.00

TABLE C-31

Do You Think Medical Education Has Changed Significantly In the Last Ten Years in Terms of Acceptance of Women, Acceptance of Other Minority Groups, Etc.?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	57	89.06	30	75.00
No	5	7.81	9	22.50
Don't Know	2	3.12	1	2.50
No Answer	0	00.00	0	00.00
Total	64	99.99	40	100.00

TABLE C-32

If So, In What Way(s)?

	Group A Number	Group B Number
Accepting Larger Numbers Including Minorities	45	16
Just an Assumption	9	0
Pressures from Women's Movement and Society	6	5
Other Changes	4	3
Don't Know	1	0
Trend of the Times	0	4
Other	7	4

TABLE C-33

Do You Think That Women Are More Suited To Some Fields and Less Suited to Other Fields?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes*	52	81.25	12	30.00
No**	11	17.19	28	70.00
No Answer	1	1.56	0	00.00
Total	64	100.00	40	100.00

TABLE C-34

Why Or Why Not (Yes*)

Reason	Group A Number	Group B Number
Physical and/or Emotional Requirements	48	7
Social Conditioning	10	1
Other	4	1

Why Or Why Not (No**)

Reason	Group A Number	Group B Number
Capability and not Sex Important	6	20
With Qualifications	4	6

TABLE C-35

If Your Answer Was Yes, Which Fields Would You Consider Most Suitable For Women?

Field	Group A Number	Group B Number
Education	13	3
Fields Requiring Less Physical Strength	13	2
Secretarial/Clerical	12	2
Health (Not Physician)	8	4
Health (Physician)	7	6
Professions	7	4
Business	4	1
Dexterity Fields, For Example Assembly Line	4	1
Service (Waitress, Sales, Etc.)	4	0
Social Service	4	0
None	3	0
Other	6	4

TABLE C-36

If Your Answer Was Yes, Which Fields Would You Consider Least Suitable For Women?

Field	Group A Number	Group B Number
Fields Requiring Heavy Physical Labor	31	7
Steel/Construction	19	2
Engineering	9	0
Crafts	8	0
Other	21	3

TABLE C-37

Do You Think That Men Are More Suited To Some Fields and Less Suited To Other Fields?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes*	44	68.75	12	30.00
No**	19	29.69	28	70.00
No Answer	1	1.56	0	00.00
Total	64	100.00	40	100.00

TABLE C-38

Why Or Why Not? (Yes*)

Reason	Group A Number	Group B Number
Physical and/or Emotional Requirements	39	6
Societal Conditioning/ Tradition	6	1
Depends on Individual	4	1
Other	2	3

TABLE C-39

Why Or Why Not? (No**)

Reason	Group A Number	Group B Number
Traditional Stereotypes Not Valid	5	0
Qualifications and Characteristics Determine	3	15
Men and Women Equal	1	6
Other	6	5

TABLE C-40

If Your Answer Was Yes, Which Fields Would You Consider Most Suitable For Men?

Field	Group A Number	Group B Number
Those Requiring Physical Strength or Stamina	24	3
Professions (Including Engineering)	8	3
Construction/Steel	8	0
Medical Fields	7	4
Military/Law Enforcement	5	0
No Limit	5	0
Managerial/Leadership	4	2
Crafts	3	1
Other	9	5

TABLE C-41

If Your Answer Was Yes, Which Fields Would You Consider Least Suitable For Men?

Field	Group A Number	Group B Number
Secretarial/Clerical	13	2
Domestic Activities	7	0
Sales/Service	7	0
Manual Manipulation (Assembly Line/Patience)	6	1
Nursing	6	0
No Limit	4	0
Education	3	0
Other	2	4

TABLE C-42

What Would You Consider To Be the Most Serious Problems Encountered By Medical Students?

Problem	Group A Number	Group B Number
Academic	34	13
Financial	27	17
Time	25	8
Personal	13	5
Competition/Pressure	6	8
Social	4	3
Time (Years)	3	7
Admission	0	7
Other	2	1

TABLE C-43

Do You Think Women Face Some Problems of a Different Nature Than Those Faced By Men?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	41	64.06	22	55.00
No	23	35.94	17	42.50
No Answer	0	00.00	1	2.50
Total	64	100.00	40	100.00

TABLE C-44

If So, What Are the Differences?

Differences	Group A Number	Group B Number
Male Acceptance/Prejudice	18	13
Marriage	17	4
Pregnancy	16	4
Peer Approval	5	0
Societal Expectations	4	0
Nature of Men/Women	3	5
Isolation	3	0
Other	8	3

TABLE C-45

Do you Think it is Important that a Candidate for Medical School be a "Well-Rounded" Individual?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes*	56	87.50	38	95.00
No**	8	12.50	2	5.00
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

TABLE C-46

Why or Why Not (Yes*)

Reason	Group A Number	Group B Number
Necessary to Get Along With All Types of People	48	16
Proper Balance Necessary	22	13
Other	4	7

Why or Why Not (No**)

Reason	Group A Number	Group B Number
Competency Most Important Factor	7	2

TABLE C-47

Do You Make an Effort to Encourage Members of Minority Groups Such as Blacks to Enter Medicine?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	21	32.81	22	55.00
No	9	14.06	6	15.00
Not Applicable	34	53.13	0	00.00
No Answer	0	00.00	12	30.00
Total	64	100.00	40	100.00

TABLE C-48

Do You Make an Effort to Encourage Women to Enter Medicine?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	56	87.50	35	87.50
No	8	12.50	5	12.50
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

TABLE C-49

Do You Make an Effort to Encourage Those of Low Socio-Economic Status to Enter Medicine?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	55	85.94	32	80.00
No	9	14.06	8	20.00
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

TABLE C-50

Do You Make an Effort to Encourage Members of Minority Groups Such as Blacks to Enter Medicine?

Yes	Group A Number	Group B Number
If Interest and Ability are There	12	20
Individual Choice	6	0
Are Needed in Medicine	3	0
Other	3	4

No	Group A Number	Group B Number
Interest and Ability Must be There	3	3
Other	4	1

TABLE C-51

Do You Make an Effort to Encourage Those of Low Socio-Economic Status to Enter Medicine?

Yes	Group A Number	Group B Number
If Interest and Ability are There	35	23
Financial Considerations (Aid)	12	2
Individual Choice	8	0
Are Needed in Medicine	3	0
Other	6	6

No	Group A Number	Group B Number
Not Unless Interest and Ability are There	3	3
Up to Individual	3	3
Other	2	0

TABLE C-52

Do You Make an Effort to Encourage Women to Enter Medicine?

Yes	Group A Number	Group B Number
If Interest and Ability are There	36	23
Individual Choice	8	0
Women Belong in Medicine	6	5
Might Need Encouragement	3	1
Other	8	4

No	Group A Number	Group B Number
Interest and Ability Must be There	3	3
Up to Individual	3	0
Other	2	1

TABLE C-53

Do You Think a Student of Average Academic Ability Can Succeed In Medical School?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes*	32	50.00	18	45.00
No**	30	46.88	21	52.50
Don't Know	2	3.13	1	2.50
No Answer	0	00.00	0	00.00
Total	64	100.01	40	100.00

TABLE C-54

Why Or Why Not? (Yes*)

Reason	Group A Number	Group B Number
If Motivated	24	14
With Strong Reservations	4	4
Realize Demands	3	0
Other	5	0

TABLE C-55

Why Or Why Not? (No**)

Reason	Group A Number	Group B Number
Too Demanding	22	16
Difficulty of Success/ Acceptance	5	6
Other	3	2

TABLE C-56

What Kinds of Extra-Curricular Activities Do You Think Would Be Best For Someone Contemplating Entering Medicine?

Extra-Curricular Activity	Group A Number	Group B Number
Exposure to Health Profession	24	6
Volunteer/Service	21	10
People Oriented Activity	19	8
Anything	16	2
Athletics	11	15
Leadership Activities	10	5
Science	8	8
Fine Arts	8	7
Debate	5	2
Student Government	4	2
Newspaper	3	0
School Clubs	2	3
Variety	0	6
Other	6	2

Group B	Career/College Number
Before High School	2
Primarily in High School	
Ninth Grade	6
Tenth Grade	2
Eleventh Grade	4
Twelfth Grade	4
More Than One Grade Noted	5
High School and College	6
Primarily in College	
Freshman	3
Sophomore	2
Varies With Student	10

TABLE C-57

Please Rate the Importance of Athletics For Someone Entering Medicine

	Group A		Group B	
	Number	Percent	Number	Percent
Very Important	6	9.38	5	12.50
Moderately Important	18	28.12	14	35.00
Minimally Important	25	39.06	17	42.50
Not Important At All	15	23.44	4	10.00
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

TABLE C-58

Briefly Describe Your Participation in Athletics

	Group A Number	Group B Number
High School		
Basketball	26	17
Football	24	11
Baseball/Softball	19	12
Intramurals	8	3
Track	5	6
Volleyball	4	3
Golf	3	0
Tennis	3	1
GAA	3	0
Swimming	0	0
Other	6	4

	Group A Number	Group B Number
College		
Football	17	8
Baseball/Softball	11	7
Basketball	10	7
Swimming	7	3
Intramurals	7	4
Tennis	7	2
Track	3	3
Golf	3	3
Other	12	9

	Group A Number	Group B Number
Other		
Golf	2	6
Baseball/Softball	2	4
Tennis	1	3
Bowling	0	3
Other	7	10

TABLE C-59

Have You Actively Discouraged Students From Entering the Profession of Medicine as a Career?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes	9	14.06	12	30.00
No	55	85.94	28	70.00
No Answer	0	00.00	0	00.00
Total	64	100.00	40	100.00

TABLE C-60

If So, What Kinds of Students Have You Discouraged?

Student	Group A Number	Group B Number
Below Average Academic Ability	10	10
Other	1	1

TABLE C-61

What Have Been Your Reasons?

Reason	Group A Number	Group B Number
Couldn't Succeed for Academic Reasons	6	7
Couldn't Succeed for Reasons Other Than Academic	4	1
Other	1	2

TABLE C-62

Do You Often Encourage Those You Think Would Not Succeed as a Physician to Enter Another Health-Related Field?

	Group A		Group B	
	Number	Percent	Number	Percent
Yes*	46	71.88	34	85.00
No**	18	28.13	5	12.50
No Answer	0	00.00	1	00.00
Total	64	100.01	40	100.00

TABLE C-63

Why or Why Not? (Yes*)

Reason	Group A Number	Group B Number
Suggest Options	36	25
Guide Toward Self Direction	8	0
Lacking Qualifications	7	7
Give Realistic Picture	3	0
Other	1	3

TABLE C-64

Why Or Why Not (No**)

Reason	Group A Number	Group B Number
Suggest Options	6	2
Decision Comes Later	4	2
Choice is Own	3	1
Other	1	0

TABLE C-65

In General, What Advice Would You Give to a Student Contemplating Entering the Profession of Medicine?

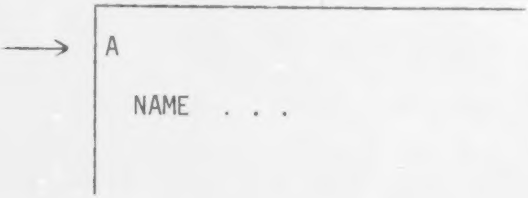
Advice	Group A Number	Group B Number
Academic	47	26
Personal	44	20
Knowledge of Field/Requirements	29	11
Potential Problems	13	9
Recognize Time (Years)	12	4
Be Dedicated	12	0
Recognize Financial Commitment/ Return	11	4
Work Hard	7	9
Be Involved in Activities	7	3
Altruistic	4	7
Good Luck	3	0
Be Aware of Other Options	2	3
Other	8	5

APPENDIX D

PILOT STUDY

DIRECTIONS FOR THE HIGH SCHOOL PRE-MEDICAL STUDENT ADVISEMENT STUDY

Enclosed are twelve protocols describing high school students who have expressed a desire to go to medical school. Please read through all of the protocols and familiarize yourself with each one of them. Notice that each protocol has been labeled in the upper left-hand corner with an identifying letter, i.e.:



The response sheet has listed the sixty-six possible ways the twelve protocols can be paired. For example, #1 has the paired cases A and B, #2 the paired cases A and C, and so on. For #1 take the two protocols A and B, review them, and with the information given make the following decision: Of the two, which one would you most strongly advise to pursue an academic career leading to medical school. On the response sheet circle the letter of that protocol, e.g.:

1. A [✓ B]

There may be pairs where you have difficulty in making a decision; nonetheless, it is very important for the validity of this study that you do make a decision in every instance.

NAME ______________________________

RESPONSE SHEET

1. A B
2. A C
3. A D
4. A E
5. A F
6. A G
7. A H
8. A I
9. A J
10. A K
11. A L
12. B C
13. B D
14. B E
15. B F
16. B G
17. B H
18. B I
19. B J
20. B K
21. B L
22. C D
23. C E
24. C F
25. C G
26. C H
27. C I
28. C J
29. C K
30. C L
31. D E
32. D F
33. D G
34. D H
35. D I
36. D J
37. D K
38. D L
39. E F
40. E G
41. E H
42. E I
43. E J
44. E K
45. E L
46. F G
47. F H
48. F I
49. F J
50. F K
51. F L
52. G H
53. G I
54. G J
55. G K
56. G L
57. H I
58. H J
59. H K
60. H L
61. I J
62. I K
63. I L
64. J K
65. J L
66. K L

APPENDIX E

GUIDANCE COUNSELORS

SCHOOL OF MEDICINE
UNIVERSITY OF PITTSBURGH
PITTSBURGH, PENNSYLVANIA
15261

DIVISION OF RESEARCH IN MEDICAL EDUCATION
Room 1022-E Scaife Hall

February 28, 1974

Dear High School Guidance Counselor:

The Division of Research in Medical Education of the University of Pittsburgh School of Medicine, under a grant from the National Fund for Medical Education, is conducting a study concerning the perceptions of high school guidance counselors towards admissions practices in schools of medicine and the role they play in that process. We would like to request your help in this study. You will be asked to complete a questionnaire requiring approximately one hour. For those who complete all of the materials we will be giving a $5 honoraria. Any personal data or any of the answers to the questionnaire will be strictly confidential and will only be used for combined data analysis.

Questions regarding this study may be addressed to Dr. Robert F. Schuck or Mr. Bruce M. Barnhill of the Division of Research in Medical Education. Please complete the enclosed postcard and return by March 15, 1974. Thank you.

Sincerely,

Robert F. Schuck

Robert F. Schuck, Ed.D.
Director

RFS/jam

Enclosure

SCHOOL OF MEDICINE
UNIVERSITY OF PITTSBURGH
PITTSBURGH, PENNSYLVANIA xxxxx
15261

DIVISION OF RESEARCH IN MEDICAL EDUCATION
Room 1022-E Scaife Hall

February 28, 1974

The Division of Research in Medical Education of the University of Pittsburgh School of Medicine, under a grant from the National Fund for Medical Education, is conducting a study concerning the perceptions of high school guidance counselors towards admissions practices in schools of medicine and the role they play in that process. We would like to request your help in this study. You will be asked to complete a questionnaire requiring approximately one hour. In addition you will be contacted by Ms. Marylyn Knolle, representing the Division of Research in Medical Education, who will obtain further information during an interview. For those who complete all of the materials we will be giving a $10 honoraria. Any personal data or any of the answers to the questionnaire will be strictly confidential and will only be used for combined data analysis.

Questions regarding this study may be addressed to Dr. Robert F. Schuck or Mr. Bruce M. Barnhill of the Division of Research in Medical Education. Please complete the enclosed postcard and return by March 15, 1974. Thank you.

Sincerely,

Robert F. Schuck

Robert F. Schuck, Ed.D.
Director

RFS/jam

Enclosure

SCHOOL OF MEDICINE
UNIVERSITY OF PITTSBURGH
PITTSBURGH, PENNSYLVANIA XXXX
15261

DIVISION OF RESEARCH IN MEDICAL EDUCATION
Room 1022-E Scaife Hall
Phone Number: 624-2656

April 3, 1974

Dear High School Guidance Counselor:

You recently responded to an inquiry from our office indicating your agreement to participate in a study conducted by the Division of Research in Medical Education of the University of Pittsburgh School of Medicine on high school premedical advisement. Enclosed you will find a set of directions and materials for the first part of the study which should take from an hour to an hour and a half of your time to complete. Upon completion of the materials, please return all of them in the enclosed self-addressed stamped envelope. Upon receipt of these materials, Ms. Marylyn Knolle from our office will contact you to set up an appointment for a short interview. Within approximately six weeks of the time you have completed the interview you should receive the agreed upon $10 honorarium.

Because of the time constraints under which this study is being conducted, it will be necessary for you to return the enclosed materials completed on or before April 20. Otherwise we will assume that you are unable to complete your participation in the study and our agreement to supply a $10 honorarium will no longer be in effect. Should you find that this date is too constraining for your schedule, and you still wish to complete your participation in this study, please call us and we will attempt to make other arrangements.

We appreciate your interest in participating with us in this study and we hope that you find it interesting as well as beneficial. We plan to send everyone who completes their participation in this study a copy of any report or study that results from it.

Sincerely,

Robert F. Schuck

Robert F. Schuck, Ed.D.
Director

RFS/jam

Enclosure

SCHOOL OF MEDICINE
UNIVERSITY OF PITTSBURGH
PITTSBURGH, PENNSYLVANIA xxxx
15261

DIVISION OF RESEARCH IN MEDICAL EDUCATION
Room 1022-E Scaife Hall
Phone Number: 624-2656

April 3, 1974

Dear High School Guidance Counselor:

You recently responded to an inquiry from our office indicating your agreement to participate in a study conducted by the Division of Research in Medical Education of the University of Pittsburgh School of Medicine on high school premedical advisement. Enclosed you will find a set of directions and materials for the first part of the study which should take from an hour to an hour and a half of your time to complete. Upon completion of the materials, please return all of them in the enclosed self-addressed stamped envelope. Upon receipt of these materials, we will send a follow-up questionnaire for you to complete and return to us. Within approximately six weeks of our receipt of this second completed questionnaire you should receive the agreed upon $5 honorarium.

Because of the time constraints under which this study is being conducted, it will be necessary for you to return the enclosed materials completed on or before April 20. Otherwise we will assume that you are unable to complete your participation in the study and our agreement to supply a $5 honorarium will no longer be in effect. Should you find that this date is too constraining for your schedule, and you still wish to complete your participation in this study, please call us and we will attempt to make other arrangements.

We appreciate your interest in participating with us in this study and we hope that you find it interesting as well as beneficial. We plan to send everyone who completes their participation in this study a copy of any report or study that results from it.

Sincerely,

Robert F Schuck

Robert F. Schuck, Ed.D.
Director

RFS/jam

Enclosures

DIRECTIONS FOR THE STUDY CONCERNING HIGH SCHOOL PREMEDICAL STUDENT ADVISEMENT

1. Enclosed is a set of cards containing academic profiles of twelve high school students who have expressed an interest in becoming physicians and a response sheet. Please print carefully, one letter or number per block, the identifying information requested in the upper right-hand corner of the response sheet. This is necessary for you to receive payment for the study.

2. Please read through each of the profiles and familiarize yourself with them keeping in mind that you will be asked to decide for each of the pairs of profiles which one you feel has the best chance for success in medical school. Notice that each profile has been labeled in the upper left-hand corner with an identifying letter, i.e.:

   A

   The response sheet has listed the sixty-six possible ways the twelve profiles can be paired. For example, #1 has the paired profiles I and K, #2 the paired profiles A and D, and so on. You will notice that the response pairs are not listed in a systematic way on the response sheet so that it will be necessary to pay strict attention to the profiles each time you make a comparison to be certain you have the correct pair. For example, for #1 take the two profiles I and K, review them, and using the information given, make the following decision: Of the two, which one do you feel has the strongest possibility for success in medical school. On the response sheet circle the letter of that student's profile, as in the example below:

   1. I [✓ K]

   Do this for each pair of profiles. There may be pairs where you have difficulty in making a decision; nonetheless, it is very important for the validity of this study that you make a decision in every instance!

3. When you have finished part two above, complete the short questionnaire attached and then return all materials in the enclosed envelope.

4. If you should have any questions or you find any defect in the materials, please call:

Dr. Robert F. Schuck

or

Mr. Bruce M. Barnhill

School of Medicine
University of Pittsburgh

Phone: 624-2656

NAME ______________________________

RESPONSE SHEET

1.	I	K	23.	G	L	45.	H	J
2.	A	D	24.	I	L	46.	F	L
3.	A	C	25.	C	I	47.	D	G
4.	H	I	26.	B	L	48.	E	F
5.	A	B	27.	B	K	49.	D	L
6.	B	G	28.	C	G	50.	E	H
7.	B	I	29.	G	H	51.	E	J
8.	B	F	30.	G	I	52.	F	K
9.	B	H	31.	G	K	53.	E	K
10.	A	H	32.	H	L	54.	E	L
11.	A	G	33.	J	K	55.	F	J
12.	A	F	34.	B	E	56.	J	L
13.	C	E	35.	C	J	57.	E	I
14.	A	I	36.	C	L	58.	F	G
15.	A	L	37.	C	K	59.	B	J
16.	C	F	38.	D	H	60.	F	I
17.	G	J	39	H	K	61.	K	L
18.	I	J	40.	D	J	62.	F	H
19.	B	D	41.	D	E	63.	C	D
20.	A	K	42.	D	I	64.	B	C
21.	D	K	43.	A	E	65.	A	J
22.	C	H	44.	D	F	66.	E	G

A - 1

Name: PETER TAYLOR

Sex: MALE   Race: WHITE

Father's Occupation: VICE-PRESIDENT (BUSINESS)

Mother's Occupation: TEACHER

Extracurricular Activities:

MARCHING BAND
LAB ASSISTANT
SAILING TEAM
NEWSLETTER
CONCERT BAND
STAGE CREW

Science Courses: BIOLOGY, CHEMISTRY, ASTRONOMY   GPA: 3.83

Math Courses: ALGEBRA II, SOLID GEOMETRY, TRIGONOMETRY   GPA: 3.23

Percentile Rank in class: 90

ceeb:
Verbal 620
Quant 715

Comments:

HIGHLY INTERESTED IN HIS SCIENCE CLASSES & KEENLY INTERESTED IN PEDIATRICS

B - 2

Name: ROBERT MAJORS

Sex: MALE   Race: BLACK

Father's Occupation: MINISTER

Mother's Occupation: TEACHER

Extracurricular Activities:

BIOLOGY CLUB
SCHOOL BAND
BASKETBALL

Science Courses: BIOLOGY, CHEMISTRY, PHYSICS   GPA: 3.20

Math Courses: ALGEBRA I & II, COLLEGE ALGEBRA   GPA: 3.20

Percentile Rank in class: 85

ceeb:
Verbal 534
Quant 407

Comments:

HE HAS A STRONG INTEREST IN BIOLOGY & WOULD LIKE TO CONSIDER MEDICINE AS A CAREER

C - 3

Name: LINDA KING

Sex: FEMALE Race: WHITE

Father's Occupation: TOOL & DYE MAKER

Mother's Occupation: R.N. PUBLIC HEALTH

Extracurricular Activities:

STUDENT COUNCIL REPRESENTAT
BOWLING CLUB
HONOR ROLL
PRE-HEALTH PROFESSIONS CLUB

Science Courses: BIOLOGY, CHEMISTRY, PHYSICS GPA: 3.89

Math Courses: ALGEBRA II, SOLID GEOMETRY, TRIGONOMETRY, CALCULUS GPA: 3.77

Percentile Rank in class: 95

ceeb:
Verbal 719
Quant 762

Comments:

SHE HAD A FRIEND WHO DIED O AN OVERDOSE. THIS MADE HER WANT TO BE ABLE TO DO SOMETHING TO HELP IN DEALING WI EMERGENCIES.

D - 4

Name: JOSEPH MARTIN

Sex: MALE Race: WHITE

Father's Occupation: PHYSICIAN

Mother's Occupation: HOUSEWIFE

Extracurricular Activities:

YEARBOOK CO-EDITOR
STUDENT GOVERNMENT
SCHOOL NEWSPAPER
HONOR ROLL

Science Courses: BIOLOGY, CHEMISTRY GPA: 3.63

Math Courses: ALGEBRA I & II, PLANE GEOMETRY GPA: 3.00

Percentile Rank in class: 85

ceeb:
Verbal 443
Quant 608

Comments:

HE HAS WANTED TO BE A DOCTO SINCE HE WAS PRESENT AT AN ACCIDENT & COULD NOT HELP.

E - 5

Name: JOYCE BURKE

Sex: FEMALE Race: WHITE

Father's Occupation: MANAGER CONSULTANT

Mother's Occupation: LIBRARIAN TRAINEE

Extracurricular Activities:

CONCERT CHOIR
STUDENT GOVERNMENT
STUDENT NEWSPAPER
VIOLIN - PIANO
HONOR ROLL

Science Courses: CHEMISTRY, PHYSICS GPA: 3.79

Math Courses: ALGEBRA I & II, PLANE GEOMETRY GPA: 3.12

Percentile Rank in class: 90

ceeb:
Verbal 691
Quant 545

Comments:

POSSIBLE INTEREST IN MEDICINE AS A CAREER

F - 6

Name: DEBORAH WILLIAMS

Sex: FEMALE Race: BLACK

Father's Occupation: POLICEMAN

Mother's Occupation: HOUSEWIFE

Extracurricular Activities:

STUDENT GOVERNMENT
SCIENCE CLUB
CHEERLEADER
VOLUNTEER WORKER IN REST HOME

Science Courses: BIOLOGY, ADVANCED BIOLOGY, CHEMISTRY GPA: 3.19

Math Courses: ALGEBRA I & II GPA: 2.87

Percentile Rank in class: 85

ceeb:
Verbal 497
Quant 444

Comments:

HER VOLUNTEER WORK HAS STIMULATED HER INTEREST IN MEDICINE, BUT IS DOUBTFUL ABOUT HER CHANCES OF ACCEPTANCE.

G - 7

Name: ANTHONY HARRIS

Sex: MALE Race: WHITE

Father's Occupation: BUSINESSMAN

Mother's Occupation: Teacher

Science Courses: BIOLOGY, CHEMISTRY, PHYSICS GPA: 3.82

Math Courses: ALGEBRA II, PLANE & SOLID GEOMETRY GPA: 3.92

Percentile Rank in class: 95

ceeb:
Verbal 523
Quant 611

Extracurricular Activities:

SOFTBALL LEAGUE
TENNIS CHAMPIONSHIP
VOLUNTEER HOSPITAL WORKER
HONOR ROLL

Comments:

APPEARS TO BE STRONGLY MOTIVATED & HAS AN OLDER BROTHER WHO IS PURSUING A MEDICAL CAREER

H - 8

Name: MARK THOMPSON

Sex: MALE Race: WHITE

Father's Occupation: ENGINEER

Mother's Occupation: HOUSEWIFE

Science Courses: BIOLOGY, PHYSICS GPA: 3.94

Math Courses: PLANE & SOLID GEOMETRY, ALGEBRA I & II GPA: 3.93

Percentile Rank in class: 95

ceeb:
Verbal 630
Quant 700

Extracurricular Activities:

CHURCH USHER
INTRAMURAL SPORTS
BASKETBALL LEAGUE
VOLUNTEER HOSPITAL WORKER

Comments:

HIS VOLUNTEER WORK IN A HOSPITAL MOTIVATED HIS INTEREST, BUT HE IS ALSO INTERESTED IN THE FIELD OF PSYCHOLOGY

I - 9

Name: MARY SMITH

Sex: FEMALE   Race: WHITE

Father's Occupation: STEELWORKER

Mother's Occupation: PART-TIME LIBRARIAN

Extracurricular Activities:

- CHORAL SOCIETY
- HONOR ROLL
- CANDY STRIPER

Science Courses:	BIOLOGY, ASTRONOMY	GPA: 3.39
Math Courses:	ALGEBRA I, PLANE GEOMETRY	GPA: 3.27

Percentile Rank in class: 85

ceeb:
Verbal 673
Quant 705

Comments:

HER WORK AS A CANDY STRIPER HAS STIMULATED HER INTEREST IN MEDICINE. SHE IS ALSO CONSIDERING NURSING AS A CAREER.

J - 10

Name: LEAH PIPER

Sex: FEMALE   Race: WHITE

Father's Occupation: MINE FOREMAN

Mother's Occupation: TEACHER

Extracurricular Activities:

- STUDENT GOVERNMENT
- STUDENT NEWSPAPER
- PIANIST
- DANCING
- HONOR ROLL

Science Courses:	CHEMISTRY, PHYSICS, ASTRONOMY	GPA: 3.88
Math Courses:	ALGEBRA II, SOLID GEOMETRY, TRIGONOMETRY	GPA: 3.62

Percentile Rank in class: 95

ceeb:
Verbal 455
Quant 527

Comments:

SHE ALWAYS WANTED TO EMULATE HER UNCLE WHO IS A SURGEON

K - 11

Name: JUDITH DAVIS

Sex: FEMALE Race: BLACK

Father's Occupation: DECEASED

Mother's Occupation: KEYPUNCH OPERATOR

Extracurricular Activities:

STUDENT GOVERNMENT
COMMUNITY PROGRAM FOR THE UNDERPRIVILEGED
SCHOOL CHOIR

Science Courses: BIOLOGY, PHYSICS, CHEMISTRY — GPA: 2.83

Math Courses: ALGEBRA II, PLANE & SOLID GEOMETRY — GPA: 2.87

Percentile Rank in class: 80

ceeb:
Verbal 560
Quant 570

Comments:

IS CONSIDERING A CAREER IN MEDICINE OR THE PHYSICA SCIENCES

L - 12

Name: STEPHEN DRAKE

Sex: MALE Race: BLACK

Father's Occupation: POLICEMAN

Mother's Occupation: SECRETARY

Extracurricular Activities:

MATH CLUB
TRACK TEAM
STUDENT GOVERNMENT

Science Courses: CHEMISTRY, PHYSICS — GPA: 3.27

Math Courses: ALGEBRA II, COLLEGE ALGEBRA, TRIGONOMETRY — GPA: 3.33

Percentile Rank in class: 90

ceeb:
Verbal 500
Quant 610

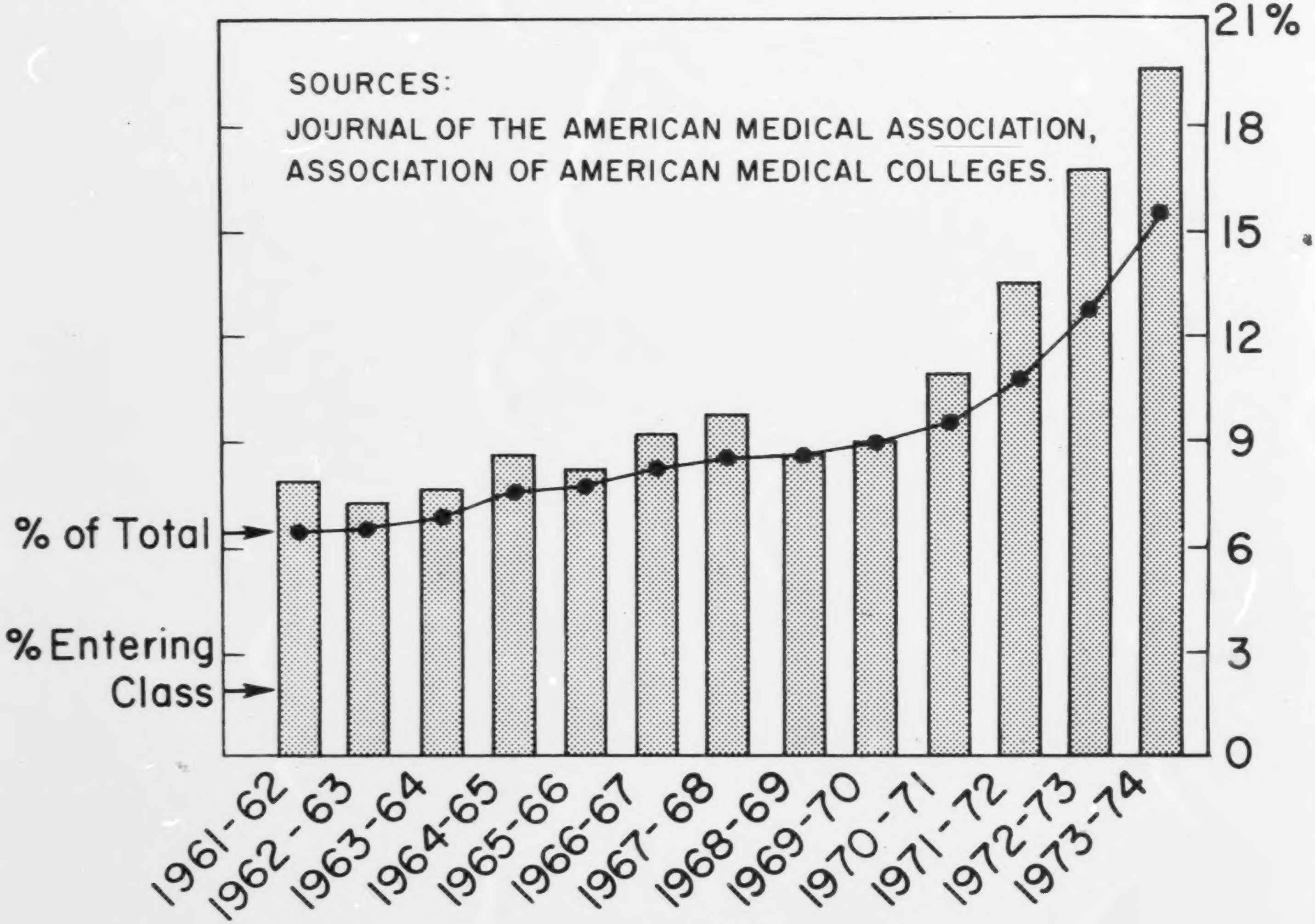
Comments:

HE IS SENSITIVE TO THE LAC OF MEDICAL CARE IN THE BLA COMMUNITY & WANTS TO WORK THIS AREA

APPENDIX F

FIGURES

FIG. 1. WOMEN STUDENTS IN U.S. MEDICAL SCHOOLS

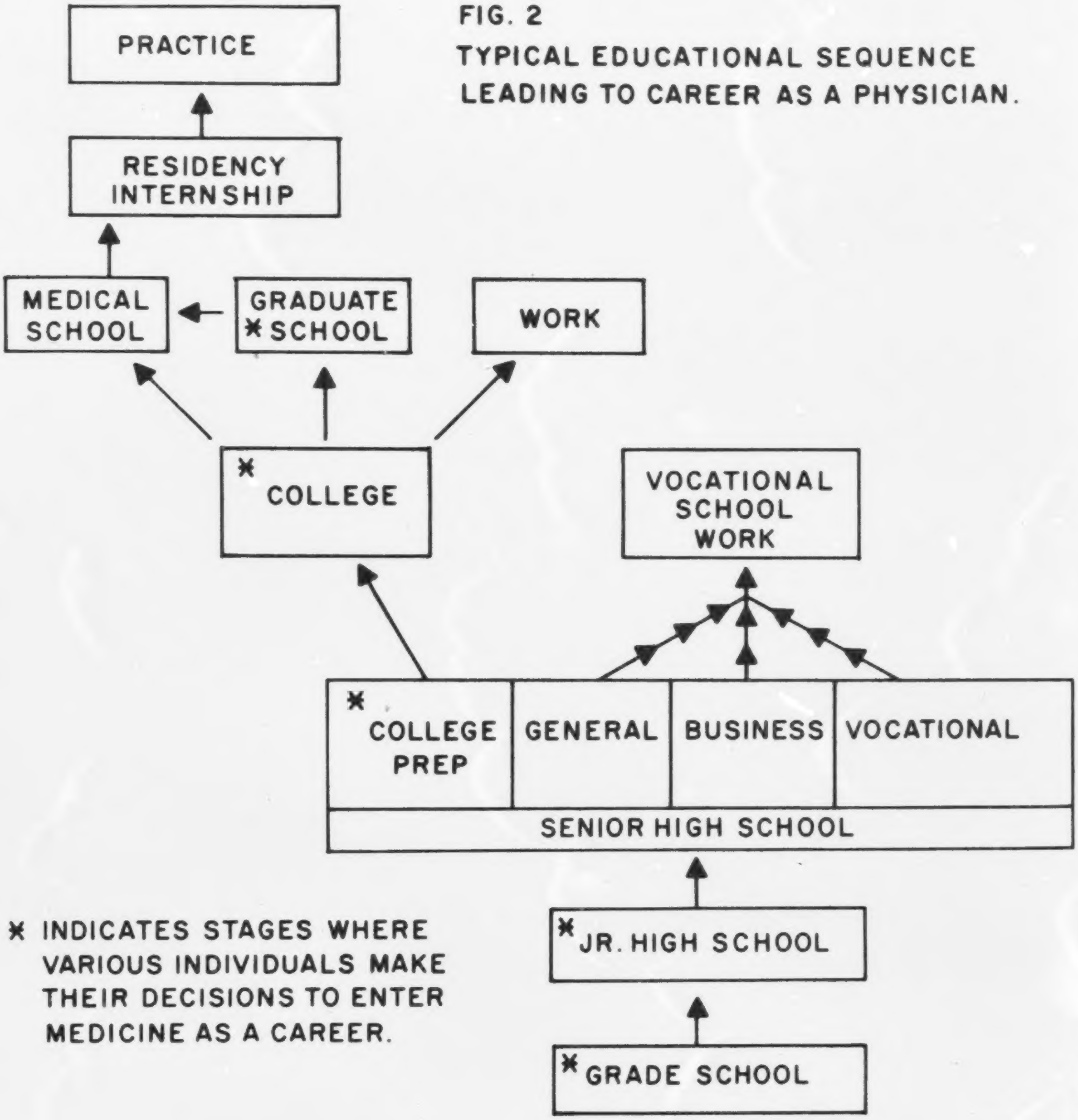


SOURCES:
JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

New York Times Volume CXXIII No. 42,543 Wednesday, July 17, 1974

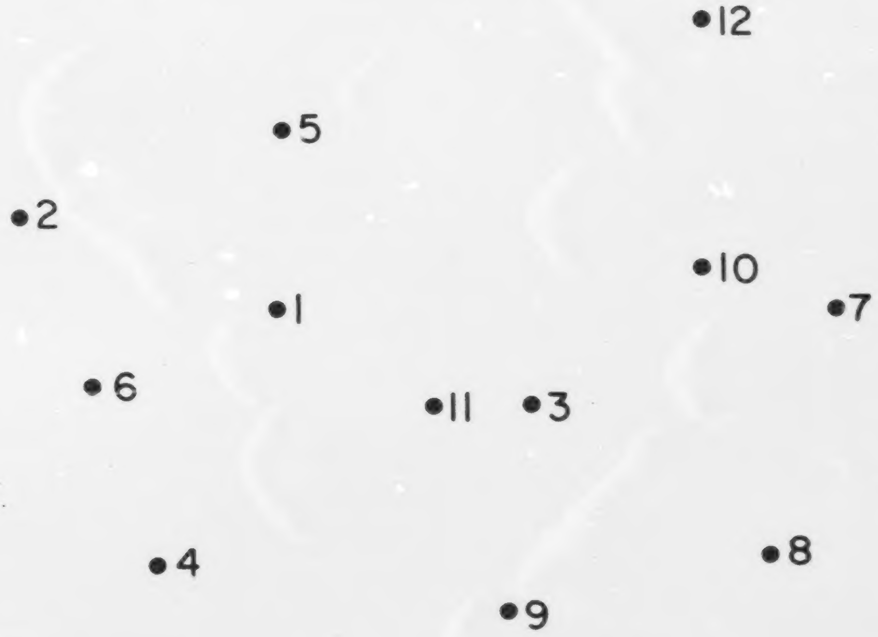
FIG. 2

TYPICAL EDUCATIONAL SEQUENCE LEADING TO CAREER AS A PHYSICIAN.


PRACTICE
RESIDENCY INTERNSHIP
MEDICAL SCHOOL
GRADUATE * SCHOOL
WORK
* COLLEGE
VOCATIONAL SCHOOL WORK
* COLLEGE PREP
GENERAL
BUSINESS
VOCATIONAL
SENIOR HIGH SCHOOL
* JR. HIGH SCHOOL
* GRADE SCHOOL

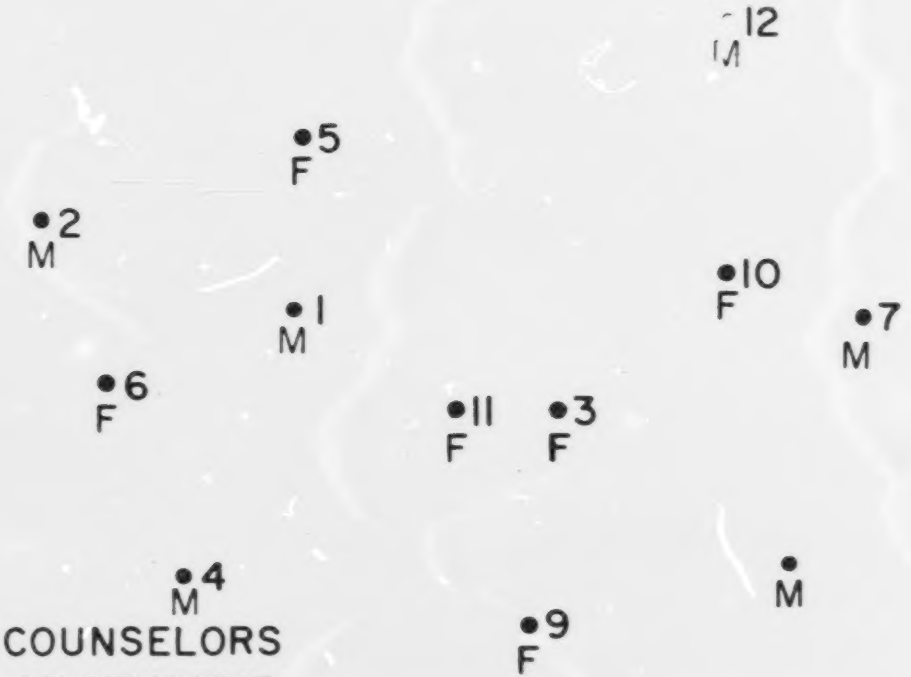
* INDICATES STAGES WHERE VARIOUS INDIVIDUALS MAKE THEIR DECISIONS TO ENTER MEDICINE AS A CAREER.

FIG. 3.



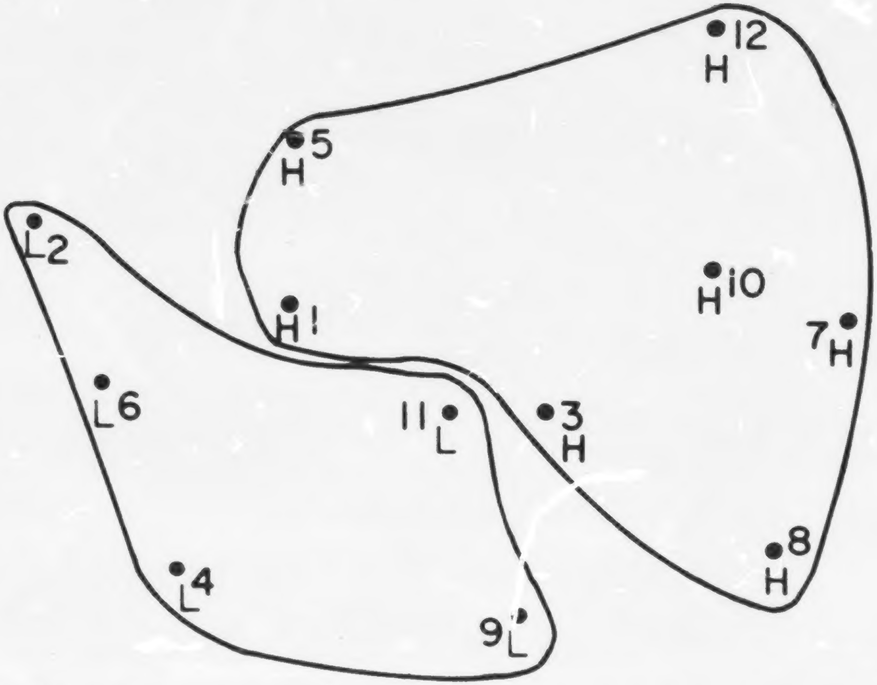
SUBJECTS: ALL COUNSELORS
KRUSKAL'S STRESS = 0.22286

FIG. 4.



SUBJECTS: ALL COUNSELORS
VARIABLE: SEX OF STUDENT
FEMALE - F
MALE - M
KRUSKAL'S STRESS=0.22286

FIG. 5.



SUBJECTS: ALL COUNSELORS

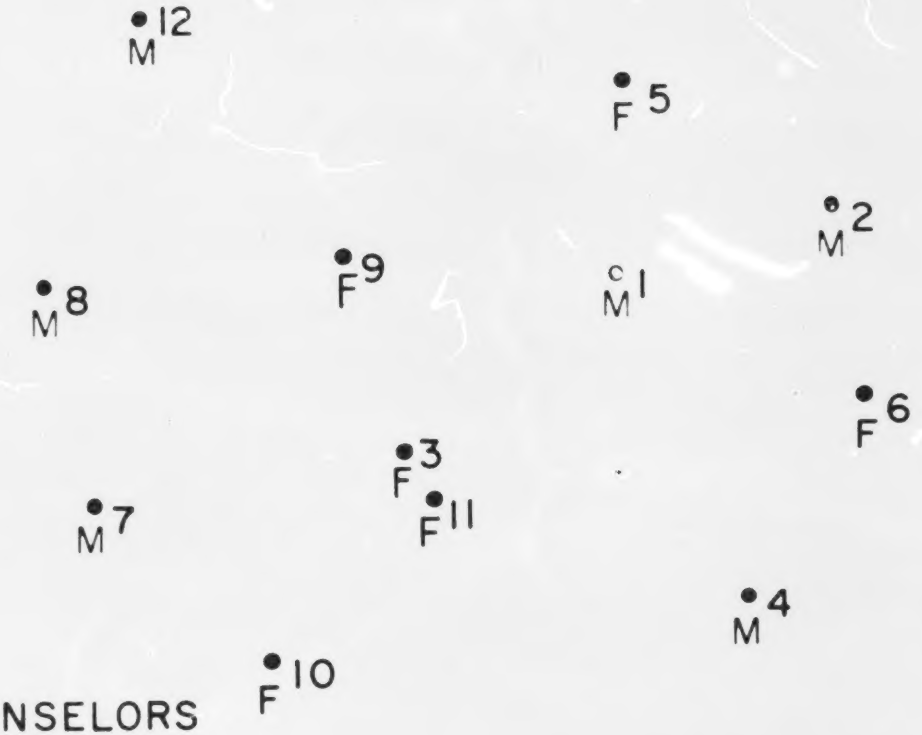
VARIABLE: STUDENT RANK IN CLASS

HIGH - H

LOW - L

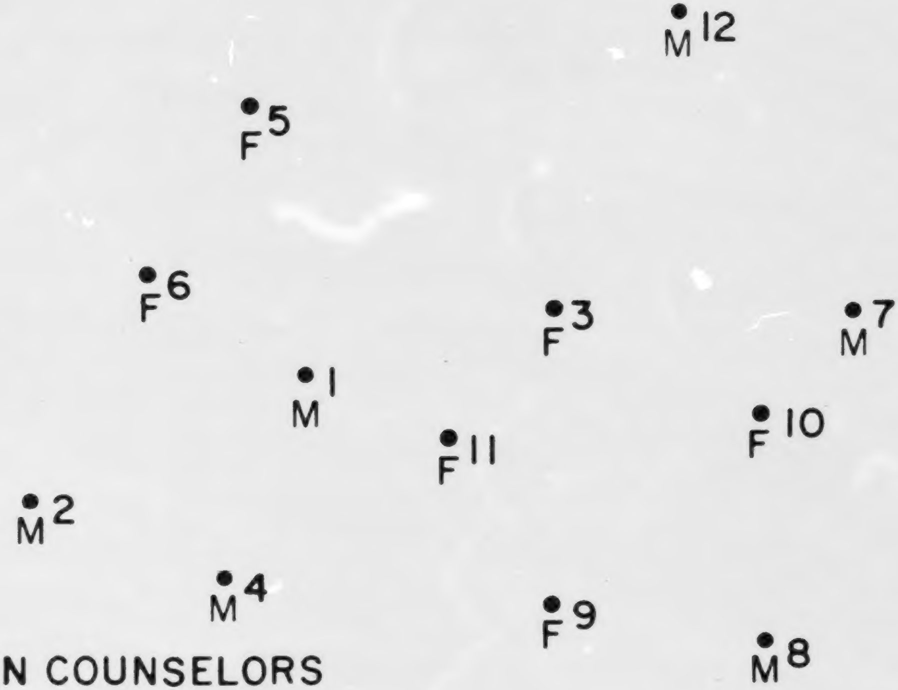
KRUSKAL'S STRESS=0.22286

FIG. 6



SUBJECT: MEN COUNSELORS
VARIABLE: SEX OF STUDENT
FEMALE-F
MALE-M
KRUSKAL'S STRESS=0.21110

FIG. 7.

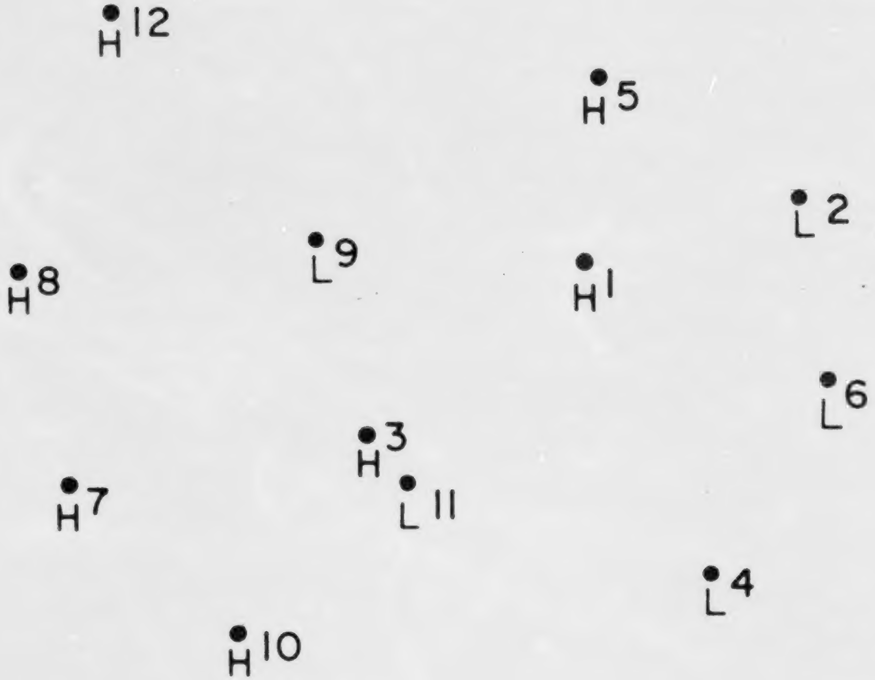


SUBJECT: WOMEN COUNSELORS

VARIABLE: SEX OF STUDENT
FEMALE - F
MALE - M

KRUSKAL'S STRESS = 0.21853

FIG. 8.



SUBJECTS: MEN COUNSELORS

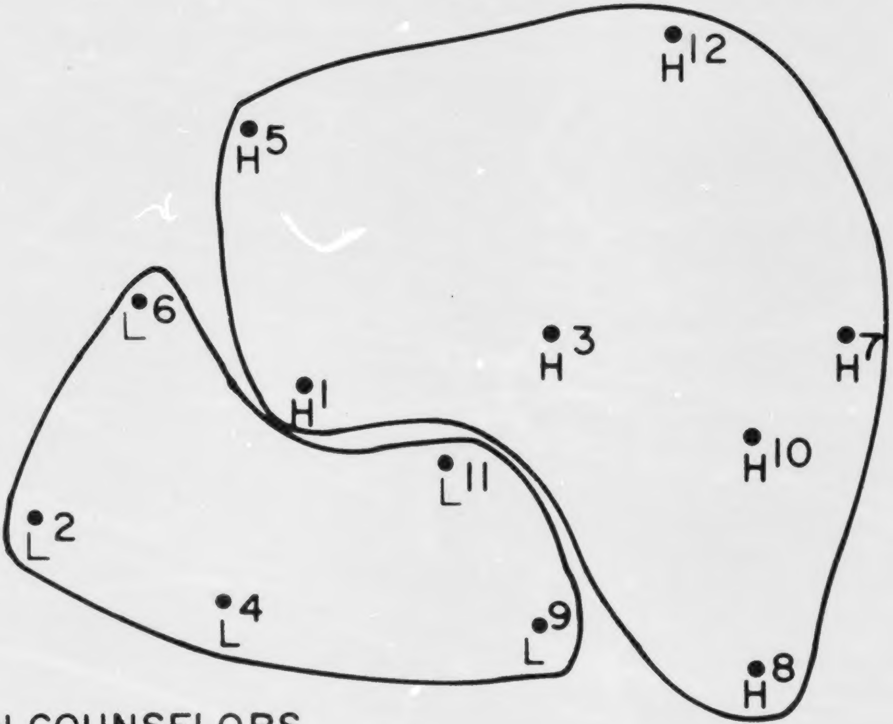
VARIABLE: STUDENT RANK IN CLASS

HIGH - H

LOW - L

KRUSKAL'S STRESS = 0.21110

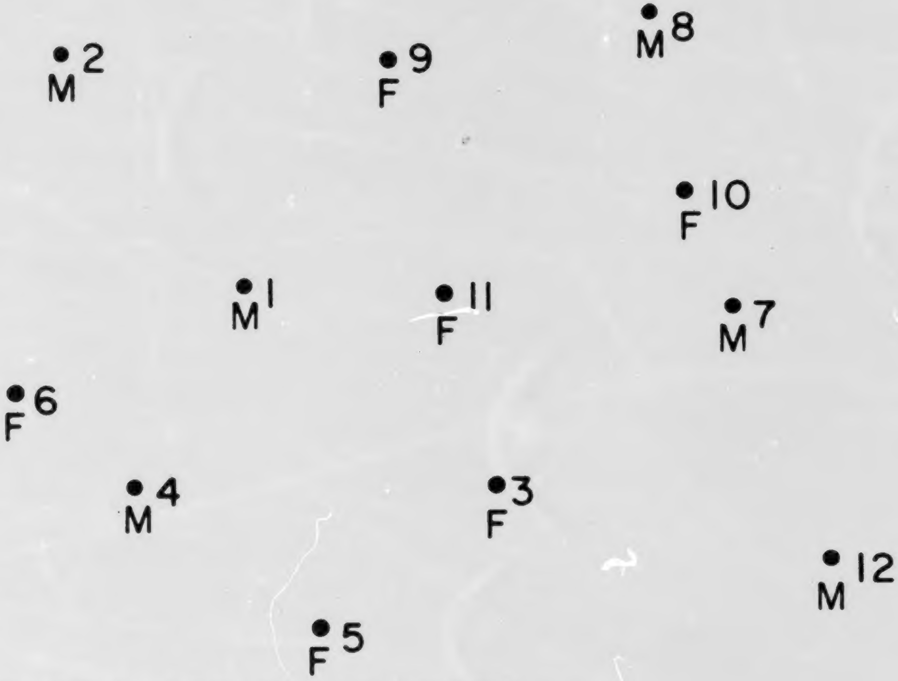
FIG. 9.



SUBJECTS: WOMEN COUNSELORS
VARIABLE: STUDENT RANK IN CLASS
HIGH - H
LOW - L

KRUSKAL'S STRESS = 0.21853

FIG. 10.



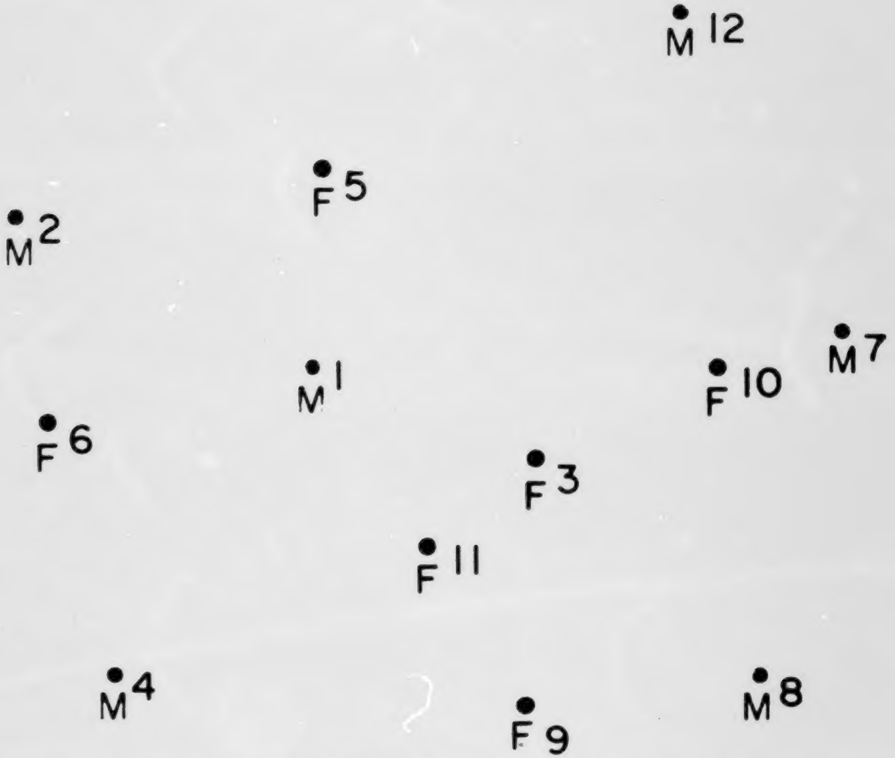
SUBJECTS: COUNSELORS AGE 21-40 YEARS

VARIABLE: SEX OF STUDENTS

FEMALE - F

MALE - M

FIG. 11.



SUBJECTS: COUNSELORS AGE OVER 40 YEARS

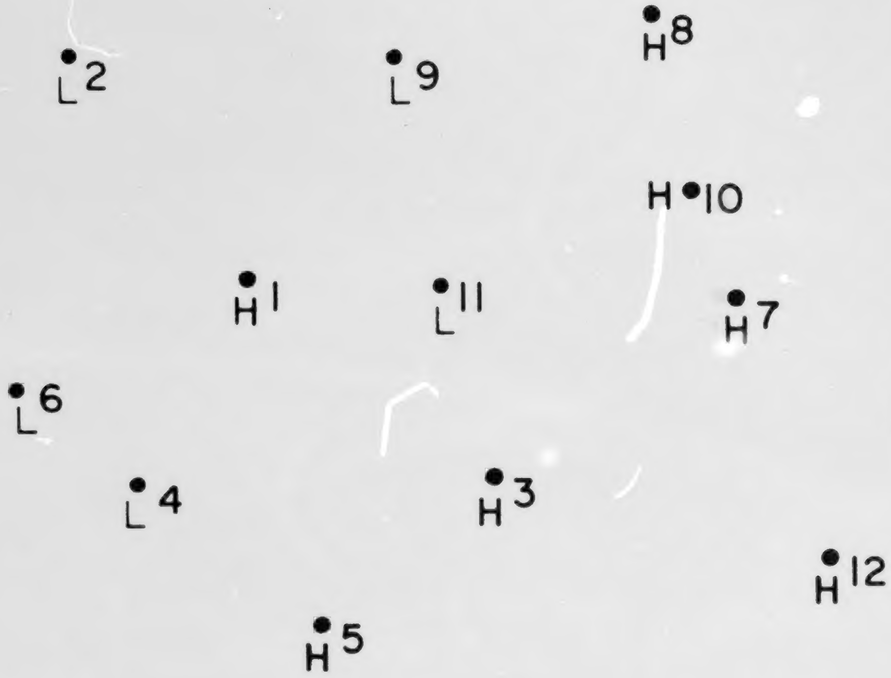
VARIABLE: SEX OF STUDENT

FEMALE - F

MALE - M

KRUSKAL'S STRESS = 0.21909

FIG. 12.



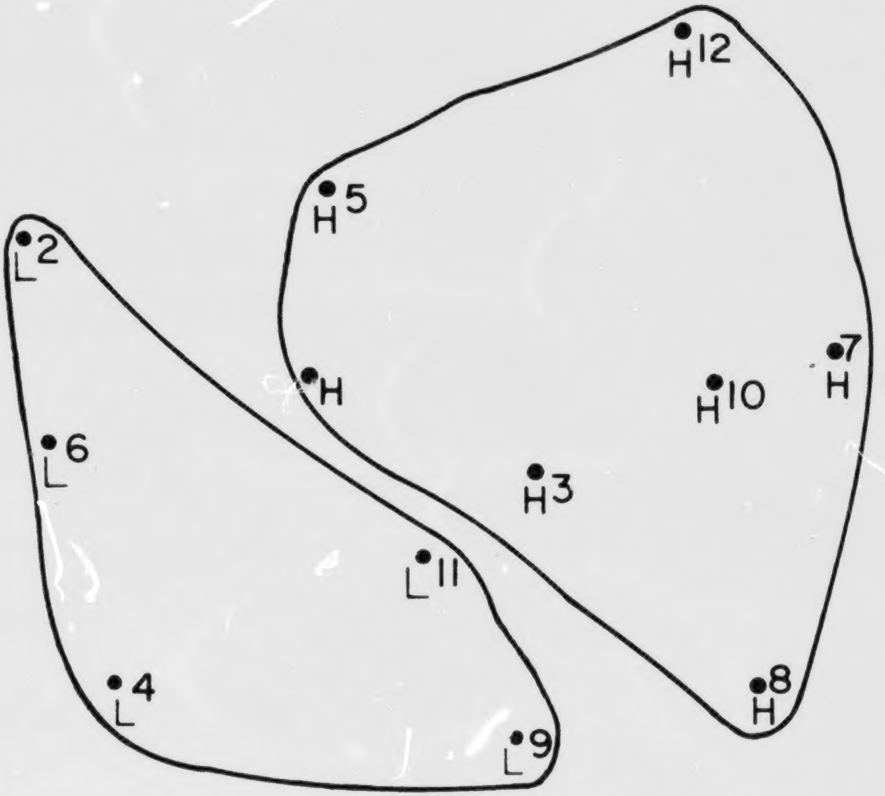
SUBJECTS: COUNSELORS AGE 21-40 YEARS

VARIABLE: STUDENT RANK IN CLASS

HIGH = H
LOW = L

KRUSKAL'S STRESS = 0.24164

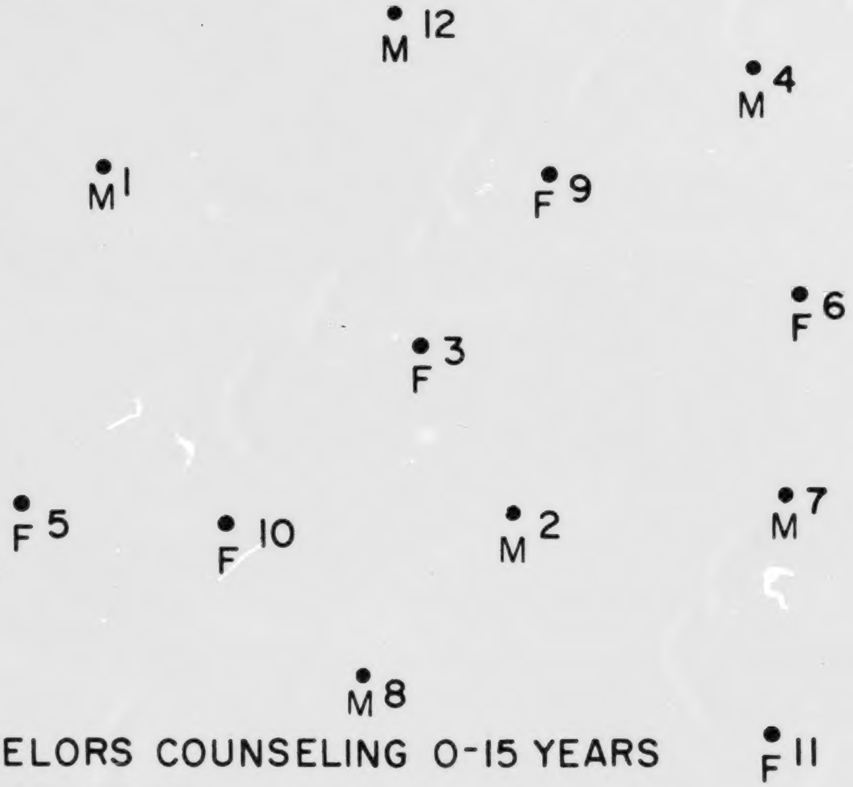
FIG. 13.



SUBJECTS: COUNSELORS AGE OVER 40 YEARS
VARIABLE: STUDENT RANK IN CLASS
HIGH - H
LOW - L

KRUSKAL'S STRESS = 0.21901

FIG. 14.

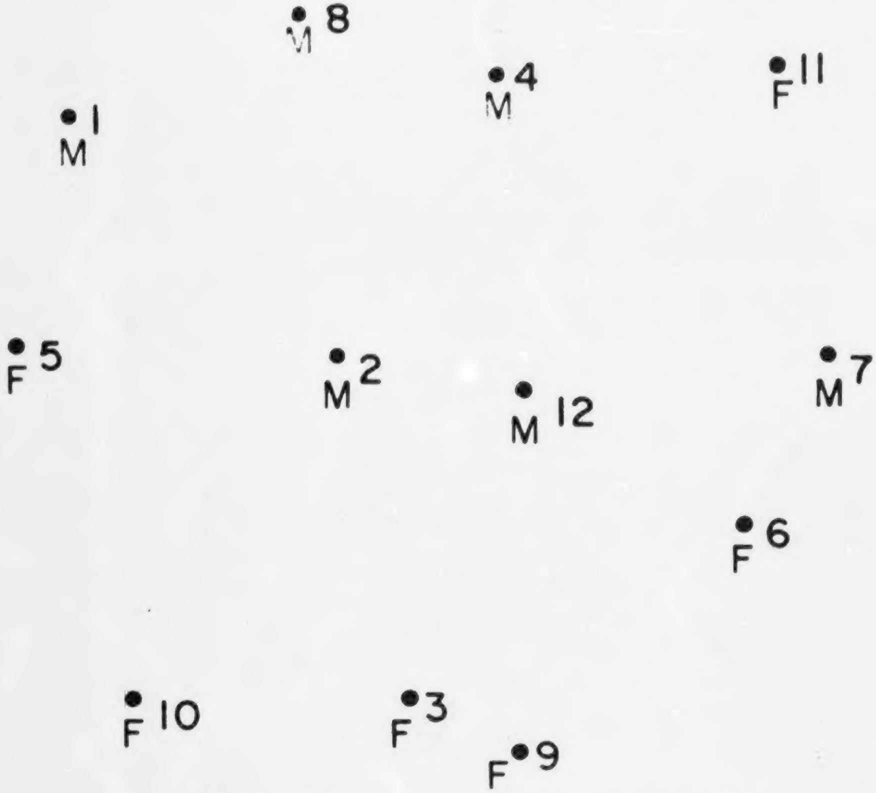


SUBJECTS: COUNSELORS COUNSELING 0-15 YEARS
VARIABLE: SEX OF STUDENT

FEMALE - F
MALE - M

KRUSKAL'S STRESS = 0.23454

FIG. 15.



SUBJECTS: COUNSELORS COUNSELING OVER 15 YEARS

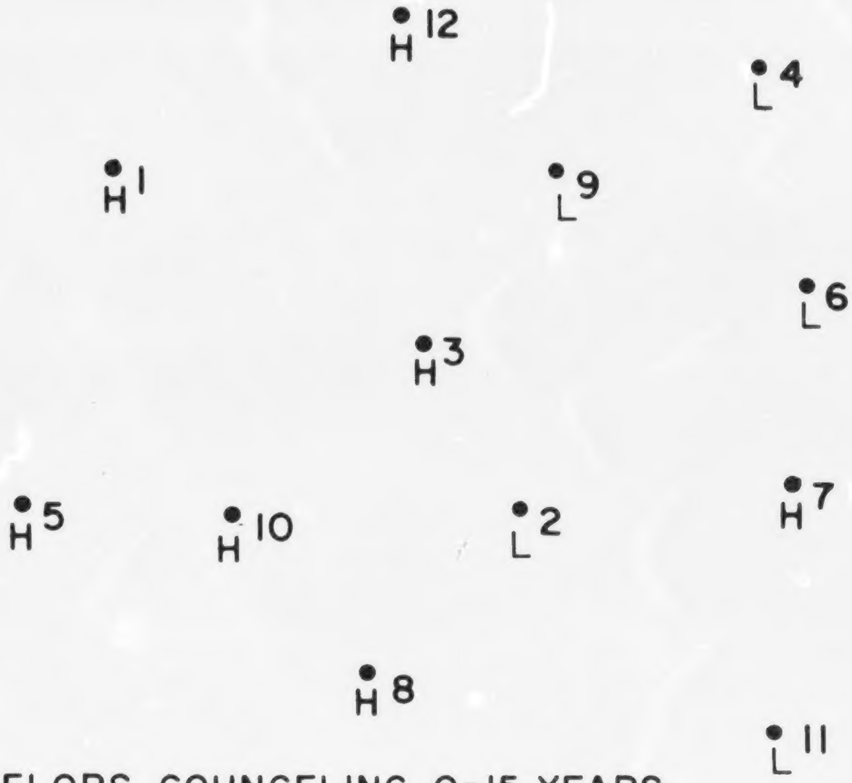
VARIABLE: SEX OF STUDENT

FEMALE - F

MALE - M

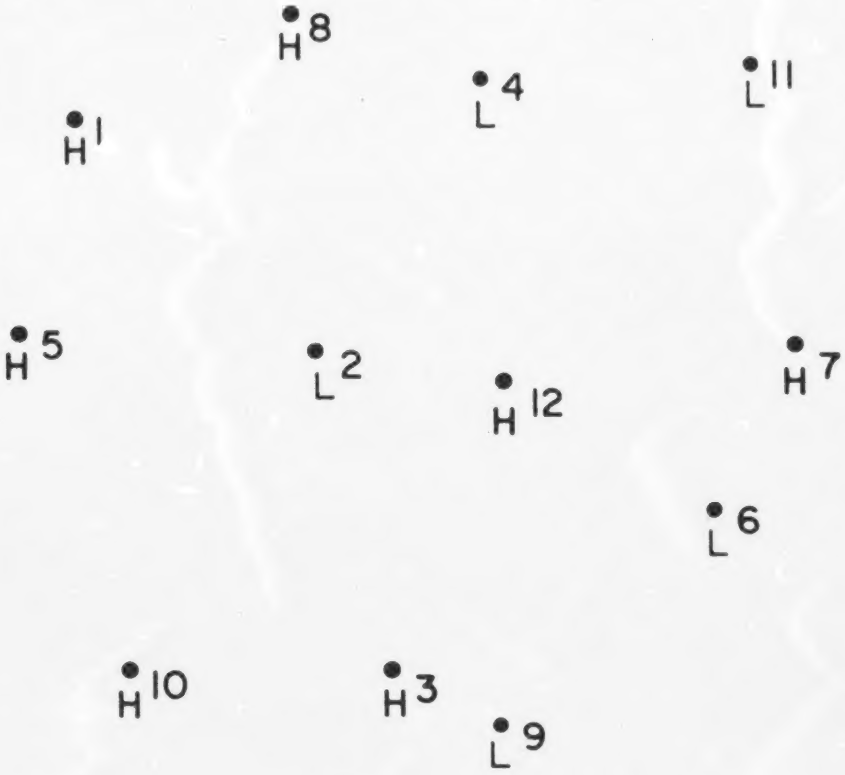
KRUSKAL'S STRESS = 0.24775

FIG. 16.



SUBJECTS: COUNSELORS COUNCELING 0-15 YEARS
VARIABLE: STUDENTS RANK IN CLASS
HIGH - H
LOW - L

FIG. 17.



SUBJECTS: COUNSELORS COUNSELING OVER 15 YEARS

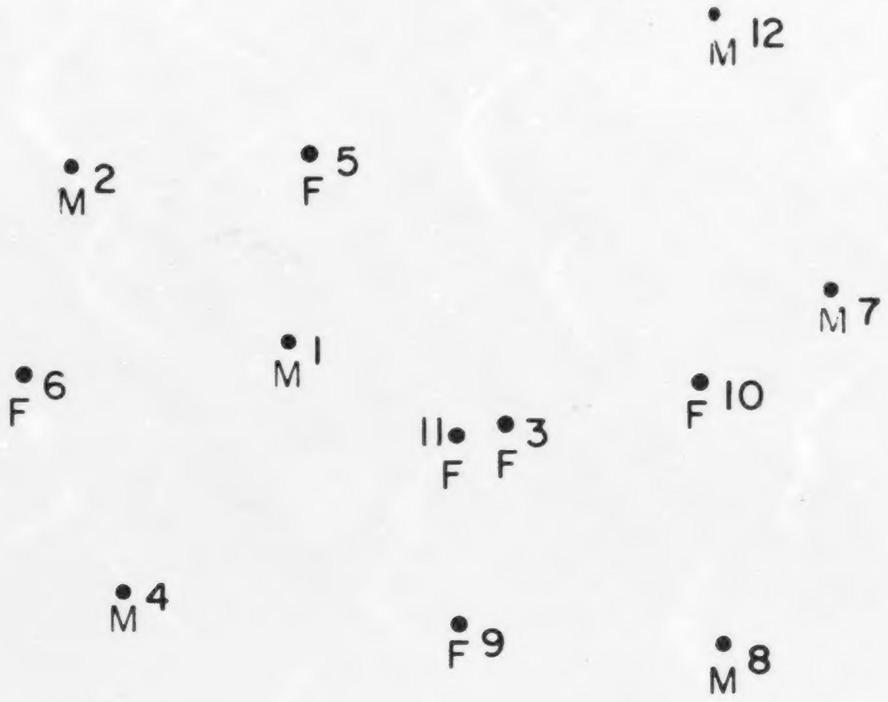
VARIABLE: STUDENT RANK IN CLASS

HIGH - H

LOW - L

KRUSKAL'S STRESS = 0.24775

FIG. 18.



SUBJECTS: URBAN COUNSELORS

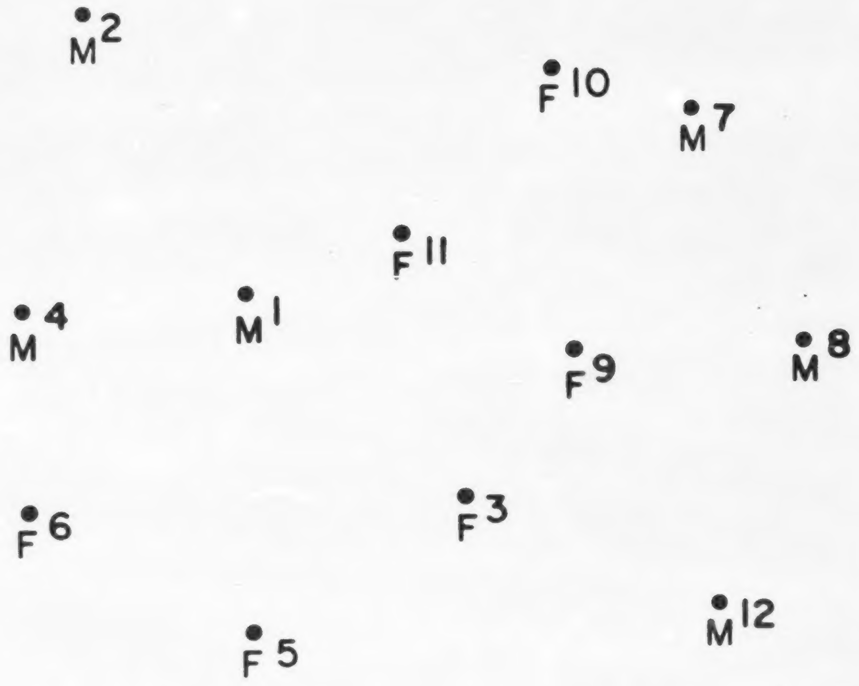
VARIABLE: SEX OF STUDENT

FEMALE - F

MALE - M

KRUSKAL'S STRESS = 0.21150

FIG. 19.

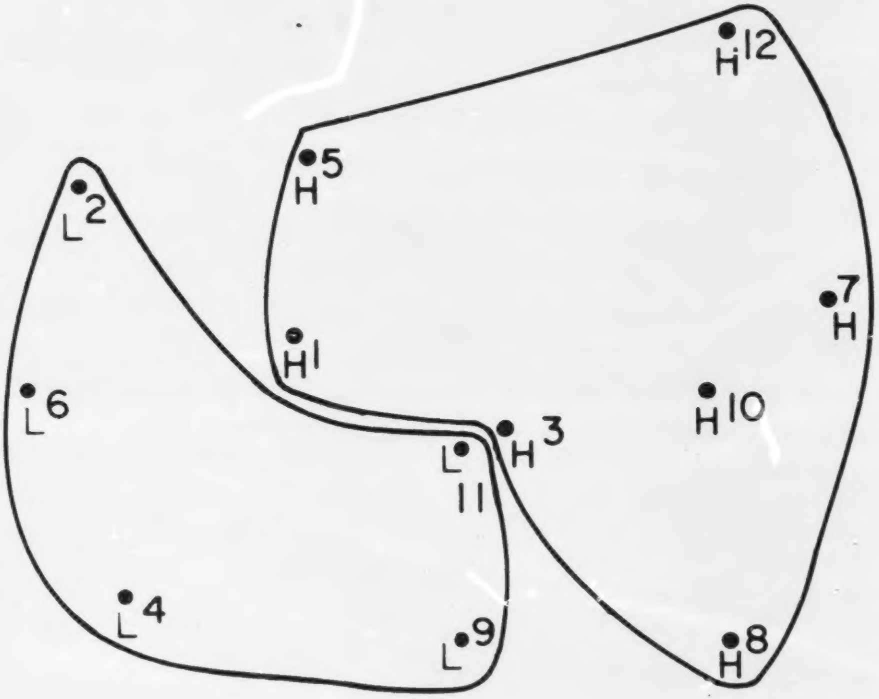


SUBJECTS: RURAL COUNSELORS

VARIABLE: SEX OF STUDENT
FEMALE - F
MALE - M

KRUSKAL'S STRESS =0.19820

FIG. 20.



SUBJECTS: URBAN COUNSELORS

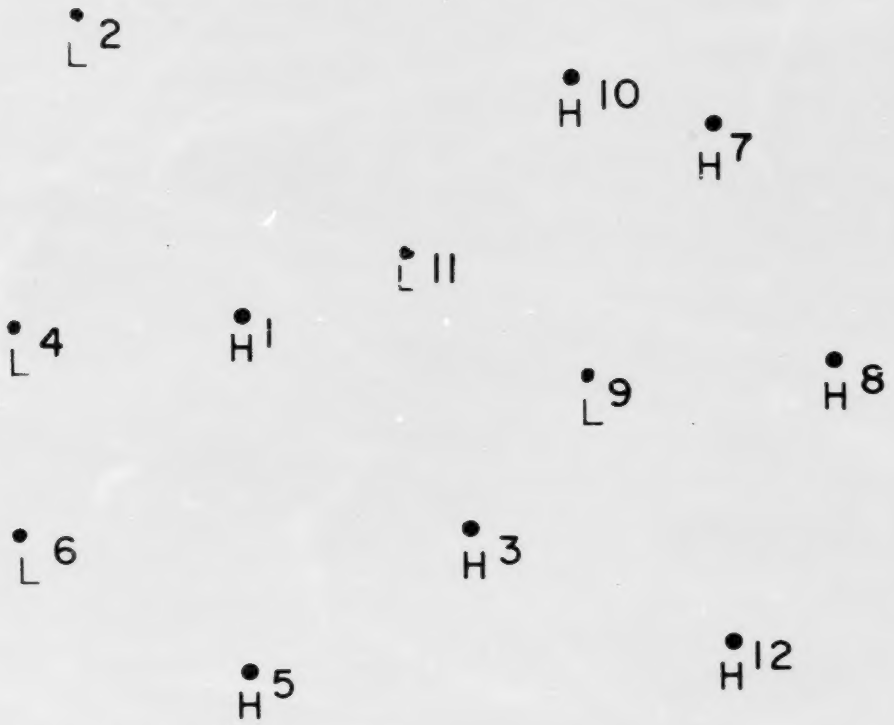
VARIABLE: STUDENT RANK IN CLASS

HIGH-H

LOW-L

KRUSKAL'S STRESS = 0.21150

FIG. 21.



SUBJECTS: RURAL COUNSELORS

VARIABLE: STUDENT RANK IN CLASS

HIGH - H

LOW - L

KRUSKAL'S STRESS = 0.19820

APPENDIX G

BIBLIOGRAPHY

Bibliography

Almquist, Elizabeth M. and Angrist, Shirley S., "Career Salience and Atypicality of Occupational Choice Among College Women," *Journal of Marriage and the Family*, Volume 32, No. 2, May 1970, pp. 242-249.

American Medical Association, Division of Medical Education, 73rd Annual Report, "Medical Education in the U.S., 1972-73," *Journal of the American Medical Association*, Volume 226, No. 8, November 19, 1973, pp. 909-915.

American Personnel and Guidance Association, "The Counselor: Professional Preparation and Role A Statement of Policy," *The Personnel and Guidance Journal*, Volume 42, No. 3, January 1964, pp. 536-541.

Angrist, Shirley S., "Variations in Women's Adult Aspirations During College," *Journal of Marriage and the Family*, Volume 34, No. 3, August 1972, pp. 465-468.

Astin, Helen S., "Personal and Environmental Factors in Career Decisions of Young Women," *Bureau of Social Science Research, Inc.*, Washington, DC, March 1970, ERIC ED 038 731.

Astin, Helen S., *The Woman Doctorate in American Origins, Career and Family*, Russell Sage Foundation, New York, 1969.

Baum, Shirley W., "A Study of Secondary School Counselor, Administration and Teacher Perceptions of the Counselor Role,' *Dissertation Abstracts*, Volume 32, No. 6, December 1971, p. 2933.

Becker, Marshall H., Katatsky, Marilynn E. and Seidel, Henry M., "A Follow-Up Study of Unseccessful Applicants to Medical School," *The Journal of Medical Education*, Volume 48, No. 11, November 1973, pp. 991-1001.

Birnbaum, Robert, "Influencing College Attendance Plans," *The Personnel and Guidance Journal*, Volume 46, No. 8, April 1968, pp. 786-789.

Bowers, John Z., "Special Problems of Women Medical Students," *The Journal of Medical Education*, Volume 43, No. 5, May 1968, pp. 532-537.

Brown, Jane Ella, "An Investigation of Holland's Theory of Vocational Choice Applied to High School Girls," *Dissertation Abstracts*, Volume 33, No. 10, 1972, p. 5486.

Bruhn, John G. and Duplessis, Andrea, "Wives of Medical Students: Their Attitudes and Adjustments," *The Journal of Medical Education*, Volume 41, No. 4, April 1966, pp. 381-385.

Campbell, Maynard Thomas, "Role Concept and Functions of Counselors in Arizona," *Dissertation Abstracts*, Volume 28, No. A4, pp. 1261-62.

Carmical, LaVerne and Calvin, Leland Jr., "Functions Selected by School Counselors," *The School Counselor*, Volume 17, No. 4, March 1970, pp. 280-285.

Cartwright, Lillian K., "The Personality and Family Background of a Sample of Women Medical Students at the University of California," *Journal of the American Medical Women's Association*, Volume 27, No. 5, May 1972, pp. 260-266.

Crowley, Anne E. and Nicholson, Hayden C., "Negro Enrollment in Medical School," *Journal of the American Medical Association*, Volume 210, No. 1, October 6, 1969, pp. 96-100.

Davis, James A., *Undergraduate Career Decisions*, Aldine Publishing Company, Chicago, 1965.

Drabick, Lawrence W., "Perceived Sources of Influence Upon Occupational and Educational Expectations," *North Carolina University*, Raleigh, 1967, ERIC ED 202 352.

Dube, W. F., "Women Students in U.S. Medical Schools: Past and Present Trends," *The Journal of Medical Education*, Volume 48, No. 2, February 1973, pp. 186-189.

Dube, W. F., "U.S. Medical Student Enrollments, 1968-69 Through 1972-73," *The Journal of Medical Education*, Volume 48, No. 3, March 1973, pp. 293-297.

Dube, W. F., Stritter, Frank T. and Nelson, Bonnie C., "Study of U.S. Medical School Applicants, 1970-71," *The Journal of Medical Education*, Volume 46, No. 10, October 1971, pp. 837-857.

Dudley, Gerald and Ruff, Eldon E., "School Counselor Certification: A Study of Current Requirements," *The School Counselor*, Volume 17, No. 4, March 1970, pp. 304-311.

Duncan, Norman, W., "The Functions and Preparation of Full-Time Counselors," *Dissertation Abstracts*, Volume 26, No. 8, February 1966, pp. 4440-4441.

Dunlop, Richard S., "Professional Educators, Parents and Students Assess the Counselor's Role," *The Personnel and Guidance Journal*, Volume 43, No. 10, June 1965, pp. 1024-1028.

England, Joan Therese, "The School Counselors' Role: Actual and Ideal, as Viewed by Counselors and Building Administrators in the Tacoma Public Schools," *Dissertation Abstracts*, Volume 33, No. 8, p. 4086.

English, H. B., and English, A. C., *A Comprehensive Dictionary of Psychological and Psychoanalytic Terms*, David McKay Company, 1966.

Faunce, Patricia S., "Vocational Interests of High Ability College Women," Journal of College Student Personnel, Volume 12, No. 6, November 1971, pp. 430-437.

Fortner, Mildred L., "Vocational Choices of High School Girls: Can They Be Predicted?" The Vocational Guidance Quarterly, Volume 18, No. 3, March 1970, pp. 203-206.

Fredrickson, Ronald H. and Fonds, Thomas, "College Admissions Assistance by Secondary School Counselors," The Personnel and Guidance Journal, Volume 49, No. 5, January 1971, pp. 383-389.

Funkenstein, Daniel H., "Current Medical School Admissions: The Problems and a Proposal," The Journal of Medical Education, Volume 45, No. 7, July 1970, pp. 497-509.

Ginnsberg, Eli, Life Styles of Educated Women, Columbia University Press, New York and London, 1966.

Guttman, L., "A General Nonmetric Technique for Finding the Smallest Coordinates Space for a Configuration of Points," Psychometrika, Volume 33, 1968, pp. 469-506.

Hamberg, Ronald L., Swanson, August G. and Dohner, Charles W., "Perceptions and Usage of Predictive Data for Medical School Admissions," The Journal of Medical Education, Volume 46, No. 11, November 1971, pp. 959-963.

Harding, Frances Keller, "Women Doctors Past Present and Future," The Ohio State Medical Journal, Volume 68, No. 12, December 1972, pp. 1082-1085.

Harmon, Lenore W., "The Childhood and Adolescent Career Plans of College Women," American Personnel and Guidance Association, Washington, DC, March 1970, ERIC ED 040 468.

Havighurst, Robert J., "Counseling Adolescent Girls in the 1960's," The Vocational Guidance Quarterly, Volume 13, No. 3, Spring 1965, pp. 153-160.

Henn, Mary Jo and Carver, Michael J., "Admissions Policy of the University of Nebraska College of Medicine," The Nebraska State Medical Journal, Volume 56, No. 6, June 1971, pp. 237-240.

Hermann, John B. and Creek, Robert O., "Admissions Program at Creighton University School of Medicine," The Nebraska State Medical Journal, Volume 56, No. 6, June 1971, pp. 241-243.

Jarecky, Roy K., "Medical School Efforts to Increase Minority Representation in Medicine," The Journal of Medical Education, Volume 44, No. 10, October 1969, pp. 912-918.

Jenkins, Edward F., "An Analysis of Student, Teacher and Parent Ratings of the Guidance and Counseling Program in Spokane, Washington Junior and Senior High Schools," Dissertation Abstracts, Volume 32, No. 6, December 1971, pp. 3030-3031.

Johnson, Edward, "The Consultant Role of the Counselor and the College-Bound Student," *The School Counselor*, Volume 17, No. 2, November 1969, pp. 83-84.

Jones, Jane G., *Career Patterns of Women Physicians*, Dissertation, Brandeis University, 1971.

Karman, Felice J., "Women's Personal and Environmental Factors in Career Choice," Paper presented at Annual Meeting American Educational Research Association, New Orleans, February 1973, ERIC 074 400.

Kelly, Delas H., "Social Origins and Adolescent Success Patterns," *Education and Urban Society*, Volume 4, No. 3, May 1972, pp. 351-365.

Kennedy, John J. and Fredrickson, Ronald H., "Student Assessment of Counselor Assistance in Selected Problem Areas," *Counselor Education and Supervision*, Volume 8, No. 3, Spring 1969, pp. 206-212.

Kriedberg, Gerald N., "The Role of the High School Counselor as Perceived by Administrators, Counselors, Teachers and Students and Measured by the Semantic Differential Technique," *Dissertation Abstracts*, Volume 33, No. 1, p. 159.

Kruskal, J. B., "Multidimensional Scaling by Optimizing Goodness of Fit to a Nonmetric Hypothesis," *Psychometrika*, 29, 1964, pp. 1-27.

Langley, Gladys Bradley, "The Roles of the Secondary School Guidance Director and the Secondary School Guidance Counselor in Pennsylvania," *Dissertation Abstracts*, Volume 27, No. 1, p. 54.

Levin, J.,"Smallest Space Analysis of Choice of Fields of Study by College Freshmen,"*The Journal of Experimental Education*, Volume 40, No. 2, Winter 1971, pp. 61-65.

Lewis, Edwin C., "Counselors and Girls," *Journal of Counseling Psychology*, Volume 12, No. 2, Summer 1965, pp. 159-166.

Lingoes, James C., *The Guttman-Lingoes Nonmetric Program Series*, Mathesis Press, Ann Arbor, Michigan, 1973.

Lopate, Carol, *Women in Medicine*, The Johns Hopkins Press, Baltimore, Maryland, 1968.

Lund, Duane R., "A Study of Counselor, Principal and Teacher Perception of the Role of the Secondary School Counselor," *Dissertation Abstracts*, Volume 24, No. 4, October 1963, p. 1481.

Mangusso, David T., "Secondary School Counselor's Role as Perceived by Administrators of Large School Districts in Texas," *Dissertation Abstracts*, Volume 33, No. 6, 1972, p. 2717.

Marmor, Judd, "Women in Medicine: Importance of the Formative Years," *Journal of the American Medical Women's Association*, Volume 23, No. 7, July 1968, pp. 621-625.

Matthews, Margie R., "The Training and Practice of Women Physicians: A Case Study," *The Journal of Medical Education*, Volume 45, No. 12, December 1970, pp. 1016-1024.

McGuire, Frederick L., "Psycho-Social Studies of Medical Students: A Critical Review," *The Journal of Medical Education*, Volume 41, No. 5, May 1966, pp. 424-445.

Miller, Herman P., "Income Differences Between Men and Career Women," *American Journal of Sociology*, Volume 78, No. 4, January 1973, pp. 962-974.

Mlott, Sylvester P. and Schachte, Margaret P., "How Do We Choose Our Future Physicians?: A Survey of American Medical Schools," *The Journal of the South Carolina Medical Association*, Volume 68, No. 8, August 1972, pp. 320-321.

Morena, Steven P., "The Role of the Counselor in the Secondary Schools of San Francisco," *Dissertation Abstracts*, Volume 24, No. 3, September 1963, p. 1033.

Morgan, David Z., and McKee Frank W., "Admissions Activities at the West Virginia University School of Medicine," *The West Virginia Medical Journal*, Volume 67, No. 11, November 1971, pp. 336-339.

Nadelson, Carol and Notman, Malkah T., "The Woman Physician," *The Journal of Medical Education*, Volume 47, No. 3, March 1972, pp. 176-183.

Offord, David R., "Admissions Policy at Hershey," *Pennsylvania Medicine*, Volume 73, No. 8, August 1970, p. 60.

Olson, Merritt C., "The Characteristics of Counselors in the Public Secondary Schools of Alaska," *Dissertation Abstracts*, Volume 30, No. 9, March 1970, pp. 3796-3797.

Persons, William E. III, *Occupational Prediction as a Function of the Counselor*, Dissertation, University of Florida, 1972.

Phelps, Charles E., "Women in American Medicine," *The Journal of Medical Education*, Volume 48, No. 8, August 1968, pp. 916-924.

Pietrofesa, John J. and Schlossberg, Nancy K., "Counselor Bias and the Female Occupational Role," Wayne State University College of Education, Detroit, 1970, ERIC ED 044 749.

Pilkington, Ross A., "A Survey of Guidance in the Nebraska Secondary Schools, 1969-70," *Dissertation Abstracts*, Volume 32, No. 6, December 1971, pp. 3037-3038.

Poloma, Margaret Mary, "The Married Professional Woman: An Empirical Examination of Three Myths," *Dissertation Abstracts*, Volume 32, No. 1, 1970, p. 564.

Resnick, Harvey and Gelso, Charles, "Differential Perceptions of Counseling Roles: A Reexamination," *Journal of Counseling Psychology*, Volume 18, No. 6, November 1971, pp. 549-553.

Rezler, Agnes G., "Characteristics of High School Girls Choosing Traditional or Pioneer Vocations," *The Personnel and Guidance Journal*, Volume 45, No. 7, March 1967, pp. 659-665.

Rose, Harriett and Elton, Charles, "Sex and Occupational Choice," *Journal of Counseling Psychology*, Volume 18, No. 5, September 1971, pp. 456-461.

Rosenberg, Mark L., "Increasing the Efficiency of Medical School Admissions," *The Journal of Medical Education*, Volume 48, No. 7, July 1973, pp. 702-71

Rosenlund, Mary L., and Oski, Frank A., "Women in Medicine," *Annals of Interna Medicine*, Volume 66, No. 5, May 1967, pp. 1008-1012.

Rossi, Alice A., "Women in Science: Why So Few," *Science*, Volume 148, May 1965 pp. 1196-1202.

Rossi, Alice S., "Barriers to the Career Choice of Engineering, Medicine, or Science Among American Women," *Women and the Scientific Professions, The M.I.T. Symposium on American Women in Science and Engineering*, ed. by Jacquelyn A. Mattfeld, and Carol G. Van Aken, The M.I.T. Press, Cambridge, Massachusetts, 1965.

Ruben, R. J., "Women in Medicine: Past, Present and Future," *Journal of the American Medical Women's Association*, Volume 27, No. 5, May 1972, pp. 251-259.

Runkel, Philip J., "The Effectiveness of Guidance in Today's High Schools: A Survey in Illinois," Oregon University, 1962, ERIC ED 050 408.

Shapiro, Carol S., "Careers of Women Physicians: A Survey of Women Graduates from Seven Medical Schools, 1945-51," *The Journal of Medical Education*, Volume 43, No. 10, October 1968, pp. 1033-1040.

Shelton, Patricia Brooks, "Achievement Motivation of Professional Women," *Dissertation Abstracts*, Volume 28, No. 10, April 1968, p. 4274.

Simpson, Richard L. and Simpson, Ida H., "Occupational Choice Among Career-Oriented College Women," *Marriage and Family Living*, Volume 23, No. 4, November 1961, pp. 377-383.

Slater, Carl, "Student Participation in Curriculum Planning and Evaluation," *The Journal of Medical Education*, Volume 44, No. 8, August 1969, pp. 675-678.

Steinmann, Anne and Fox, David J., "Male and Female Physicians' Perceptions of Ideal Feminine Roles," *Journal of the American Medical Women's Association*, Volume 22, No. 3, March 1967, pp. 184-188.

Sutton, Bernard F., "Guidance Personnel in Indiana Public Secondary Schools," Dissertation Abstracts, Volume 24, No. 1, July 1963, p. 191.

Sweeney, Thomas J., "The School Counselor as Perceived by School Counselors and Their Principals," The Personnel and Guidance Journal, Volume 44, No. 8, April 1966, pp. 844-849.

Sweeney, Thomas J. and Stevic, Richard R., "Profile of a Counselor," The Vocational Guidance Quarterly, Volume 15, No. 2, December 1966, pp. 90-94.

Tangri, Sandra S., "Occupational Aspirations and Experiences of College Women," Department of Labor, National Institute of Mental Health, Washington, DC, September 4, 1971, ERIC ED 060 470.

Thomas, Arthur H. and Stewart, Norman R., "Counselor Responses to Female Clients With Deviate and Conforming Career Goals," Journal of Counseling Psychology, Volume 18, No. 4, July 1971, pp. 352-357.

Thompson, Robert L., "The Current and Potential Uses of Computers in Medical School Admissions and Student Affairs," The Journal of Medical Education, Volume 43, No. 10, October 1968, pp. 1055-1058.

Vanderpan, Leslie R., "A Comparison of the Perceptions of the Role and Functions of the Counselor, Both Actual and Ideal, as Perceived by the Counselor, the Secondary School Principal and the Counselor Educator in Public Schools of South Dakota," Dissertation Abstracts, Volume 32, No. 2, August 1971, p. 745.

Walton, H. J., "Sex Differences in Ability and Outlook of Senior Medical Students," The British Journal of Medical Education, Volume 2, No. 2, June 1968, pp. 156-162.

Watley, Davivan J., "How do Counselors Perceive Their Ideal Roles?" Journal of Counseling Psychology, Volume 12, No. 1, Spring 1965, p. 102.

Webster, Warren C., "The Use of Content Analysis to Describe High School Students' Perceptions of the Counselor's Role and Personal Characteristics," Dissertation Abstracts, Volume 32, No. 1, 1970, pp. 190-191.

Weinberg, Ethel, "The Academic Performance of Women Students in Medical School," The Journal of Medical Education, Volume 48, No. 3, March 1973, pp. 240-247.

Weisman, Robert A., Weinberg, Paul C. and Winstel, James W., "On Achieving Greater Uniformity in Admissions Committee Decisions," The Journal of Medical Education, Volume 47, No. 8, August 1972, pp. 593-602.

Wrestling-Wirkstrand, Helena, "Some Characteristics Related to the Career Status of Women Physicians," The Johns Hopkins Medical Journal, Volume 127, No. 5, November 1970, pp. 273-286.

Williams, Phoebe A., "Women in Medicine: Some Themes and Variations," The Journal of Medical Education, Volume 46, No. 7, July 1971, pp. 584-591.

Wilson, Marjorie P., "Women in Medicine: Improving Prospects?" The Journal of Medical Education, Volume 47, No. 4, April 1972, pp. 303-304.

Women's Bureau Bulletin 294, 1969 Handbook on Women Workers, Wage and Labor Standards Administration, U.S. Department of Labor, United States Government Printing Office, Washington, DC, 1969.